

STRATEGIC ISSUES: HISTORICAL EXPERIENCE, INSTI-
TUTIONAL STRUCTURES AND CONCEPTUAL FRAME-
WORK

A REPORT

PREPARED BY THE

CONGRESSIONAL RESEARCH SERVICE

FOR THE USE OF THE

COMMITTEE ON ENERGY AND COMMERCE

OF THE

U.S. HOUSE OF REPRESENTATIVES



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LETTER OF SUBMITTAL

Washington, D.C., July 23, 1982.

Hon. JOHN DINGELL,
Chairman, Committee on Energy and Commerce, House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: Enclosed is the CRS report which you requested on the historical experiences, institutional structures, and conceptual framework relevant to the identification and analysis of strategic issues. This report builds on our earlier report, "The Strategic Future: Anticipating Tomorrow's Crises," but may be read independently. It provides a capsule view of the changing socioeconomic profile of the United States; a look at certain governance issues emerging in the post-industrial or information society; a retrospective examination of selected forecasting case studies; a survey of commissions, institutions, advisory bodies, and global studies concerned with long-term domestic and international issues; and the identification of selected institutional and bibliographic sources of foresight information.

This report is a major interdisciplinary effort on the part of the Congressional Research Service. It represents the work of five of our research divisions, four of our senior specialists, eight other specialists and analysts, the strong support of our Library Services Division, and papers from the senior staff or faculty at SRI International, Worldwatch, J. F. Coates, Inc., and the University of Michigan. We have appreciated the consultation and continual assistance from the committee's Chief Counsel, Frank Potter. The study was designed and coordinated by Walter A. Hahn, Senior Specialist in Science, Technology, and Futures Research, and Dennis L. Little, Specialist in Futures Research and Population Policy, Science Policy Research Division.

It is a pleasure to have had the opportunity to assist you and the committee in this important and forward looking venture.

Sincerely,

GILBERT GUDE, *Director.*

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LETTER OF TRANSMITTAL

HOUSE OF REPRESENTATIVES,
COMMITTEE OF ENERGY AND COMMERCE,
Washington, D.C., August 4, 1982.

To: Members, Committee on Energy and Commerce.
From: John D. Dingell, Chairman.

I am pleased to transmit the enclosed report, "Forecasting Emerging Issues: History, Institutions, and Conceptual Framework", prepared by the Congressional Research Service at my request. This is the second volume in a continuing series which makes available to Congress information that will assist in identifying long-term problems and working toward their solutions.

This series was initiated out of concern for the future of this Nation. The Nation is in an unprecedented period of transition, driven in large part by technology. Just thirty years ago, people were buying their first television sets, engineers were constructing the first, early multimillion-dollar computers, scientists were debating whether DNA might carry the genetic code, and only science fiction buffs talked of space travel. Now, television dominates aspects of daily life, less than one thousand dollars will purchase a sophisticated computer, millions of dollars have been invested in genetic engineering, and the space shuttle is expected to operate like an airline within the decade. Technological changes have contributed to an increase in world population, they have forced a fundamental change in society's relation to the environment, and they have created global economic interdependence between politically unfriendly nations.

The problem confronting us, however, is not technology as such so much as it is the pace of technological change. It is testing our commitment to basic social precepts built over hundreds of years of history and testing the fundamental structures of our social institutions. There has always been a tension between the need for continuity and the inherently destabilizing effect of technologically-forced change, between our need for order and predictability in life and change in the interest of human progress. If these unavoidable trade-offs between continuity and change result in too much change too fast, the outcome is usually political chaos. Unless the Federal government makes a more successful effort to anticipate future events as part of a concerted strategy to give us more time to consider how to meet the challenges of tomorrow, the rate of change may be more than our social institutions can handle and our democratic form of government could be threatened.

This second volume of the series examines the historical experience, the institutional structures, and the conceptual framework

within which the identification and analysis of longrange issues takes place. The volume has four themes: the first addresses the changing socioeconomic profile of the United States and governance in the emerging information society; the second discusses selected forecasting case studies; the third is a survey of commissions, institutions, advisory bodies and global studies concerned with long-term domestic and international issues; and the fourth is a directory of sources of foresight information.

it is my hope that this volume and the others in the series will help create a perspective in which Congress can view the future and will assist the Congress in assessing trends and issues on which it might wish to focus. Not everybody will agree with all the issues raised, but this report is submitted in the hope that it will provide the Congress with solid information on ways to address matters which are likely to become vitally important in the coming years.

PREFACE

This report represents the work of four senior specialists; specialists, analysts, and bibliographers in six of the divisions of the Congressional Research Service; numerous editorial and technical support staff from each of the divisions; as well as four outside papers from senior staff or faculty at major research institutions throughout the United States. Individuals providing written contributions included:

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Eugene Boyd, Analyst in American National Government, and
Stephanie Smith, Analyst in American National Government, Government Division; and
William R. Gigax, Assistant Head, Subject Specialization Section, and
Bonnie Mangan, Science Bibliographer, Library Services Division.

OVERVIEW

This report is part of a larger effort by the Congressional Research Service to review congressional mechanisms and alternatives for shaping long-term energy policy. It is the second of four volumes, with all four volumes being summarized below for the convenience of the reader.

The Strategic Future: Anticipating Tomorrow's Crises

The purpose of this volume is to identify a comprehensive but not necessarily exhaustive list of strategic issues that are not currently in the mainstream of national politics, or if known will be implemented in an environmental context significantly different than today. The emphasis is on those issues which (directly or indirectly) are relevant to various congressional committees; their occurrence or consequences might be influenced by Congress; and their consequences might not be felt for 6 to 50 years. Issued by the Committee August 1981, available from U.S. Government Printing Office.

Strategic Issues: Historical Experience, Institutional Structures and Conceptual Framework

This volume focuses on (1) the conceptual environment for identifying, analyzing, and dealing with strategic issues; (2) some historical case studies; (3) the institutions and people (think tanks, commissions, and recent futures literature) available for identifying strategic issues, analyzing them, and dealing with them; and (4) the governance issues emerging in the post-industrial or information society.

Congressional Foresight: History, Recent Experiences, and Implementation Strategies

This volume deals with the history of congressional interest in the future, congressional experiences since passage of the House foresight provision, strategies for implementing foresight at various steps in the legislative process, resources and capabilities of congressional support agencies, and some possible future directions for foresight in Congress.

Public Issue Early Warning Systems: Legislative and Institutional Alternatives

This volume is the output of the Committee/Congressional Research Service workshop on Public Issue Early Warning Systems: Legislative and Institutional Alternatives. Topics covered include: (1) institutional experiences; (2) methods of obtaining and analyzing foresight information; (3) the sharing of foresight information (intra and interorganizational); (4) foresight and governance; and (5) congressional options.

This volume also contains pre-workshop materials, selected post-conference submissions of attendees and the proceedings of earlier hearings on national strategic planning.

CONTENTS

	Page
LETTER OF SUBMITTAL.....	iii
MEMORANDUM OF TRANSMITTAL.....	v
PREFACE.....	vii
CHAPTER 1. Foresight: Context and Overview.....	1
A. Introduction.....	1
B. The Changing Profile of America.....	4
The Economic Profile.....	4
Global Interdependence.....	4
Comparison of the 1960s, the 1970s, and early 1980s.....	5
The Social and Cultural Profile.....	6
Changes in Family Formation.....	6
Women in the Work Force.....	7
Changing Ethnicity.....	7
An Aging Nation.....	8
Educational Attainment.....	9
Implications of the Changing Profile.....	10
C. The Issue of Governance.....	10
Self-Help and Technology: Two Important Dimensions.....	11
The Learning Society.....	12
Implications for Congress.....	13
D. Forecasting Public Policy Issues.....	13
The Energy Shortage.....	15
Mandated Oil Import Program.....	16
Amtrak.....	16
U.S.-U.S.S.R. Grain Sales.....	17
Urban Growth and Demographic Projections.....	17
Full Employment and Balanced Growth Act of 1978.....	18
E. Commissions, Institutes, Advisory Groups, and Global Studies of the Future.....	19
F. Futures-Oriented Organizations and Bibliographic Information.....	21
G. Foresight: Prospectus.....	22
CHAPTER 2. The Growing Conflict Between Central Control and Individual Freedom.....	25
A. Summary Problem Statement.....	25
B. Background and Context.....	26
A Free Society.....	28
The Issue of Scale.....	29
The Issue of Societal Malfunction.....	33
The Issue of Loss of Cohesion.....	35
The Scientific and Technological Dimension.....	37
C. Analysis.....	38
Accountability.....	38
Meaningfulness of Choices.....	39
Civil Liberties.....	41
D. Impacts.....	41
E. Future Aspects.....	42
F. Proposed Responses.....	43

CHAPTER 3. Citizen Participation and Self-Help Groups. Some Optimistic Notes on the Future of Democracy.....	17
A. The Self-Help Response.....	18
B. A Self-Help Democracy.....	18
C. The Self-Help Vision.....	51
CHAPTER 4. Technology: Reshaping or Distorting Democracy.....	53
A. Assumptions About Democracy.....	53
B. Technology, Scale and Bureaucracy.....	53
C. Technology and Democracy.....	55
D. Information Technologies and Democracy.....	57
CHAPTER 5. Societal Change, The New Competence, and Legislative Behavior.....	59
A. Introduction.....	59
B. The Context Issue.....	59
C. Becoming a Learning Society.....	60
D. The New Competence.....	61
E. Some Afterthoughts.....	64
The Expert as Learner.....	64
Centralization, Decentralization, and Separatism.....	64
CHAPTER 6. Congress and the Dilemmas of Scale.....	67
A. The Growing Legislature.....	69
B. Constituencies as Moving Targets.....	73
C. Coping with Problems of Scale.....	75
CHAPTER 7. Forecasting Public Policy Problems: The Energy Shortage.....	79
A. Introduction.....	79
B. The Physical Reality of Resource Depletion.....	79
C. The U.S. Policy Response.....	81
D. The Underlying Difficulties.....	84
CHAPTER 8. Forecasting Public Policy Problems: Import Limitations.....	87
A. Introduction.....	87
B. History and Background.....	87
C. Institutions and Problems.....	89
D. Lessons Learned.....	91
CHAPTER 9. Forecasting Public Policy Problems: AMTRAK.....	93
A. Introduction.....	93
B. Background.....	93
C. Institutional Problems.....	94
D. Conclusions.....	95
CHAPTER 10. Forecasting Public Policy Problems: Grain Exports and Domestic Food Prices.....	97
A. History and Background.....	97
B. Government Management of the Problem.....	99
C. Lessons Learned.....	101
D. Epilogue.....	102
CHAPTER 11. Urban Growth, Demographic Projections, and Legislative Action: The TITLE VII Example.....	105
A. Background.....	105
B. Provisions of Title VII.....	106
C. The 1972 Report on National Growth: The Nixon Administration.....	107
D. New Population Data.....	108
E. The 1974 and 1976 Reports on National Growth: The Ford Administration.....	109
F. The 1977 Urban Policy Amendments: Refining Policy Objectives.....	109
G. The 1978 and 1980 Urban Policy Approach: The Carter Administration.....	110
H. Urban Policy Forecasting Experience: Lessons Learned.....	110
CHAPTER 12. Economic Planning and the Employment Act of 1946.....	113

CHAPTER 12. Economic Planning and the Employment Act of 1946--Continued	
A. History	113
B. Implementation of the Act	115
C. Policy Implementation	116
D. Summary	116
CHAPTER 13. Advisory Bodies: Accomplishments and Lessons Learned	119
A. Introduction	119
B. History and Background	120
C. Congressional Advisory Commissions	122
D. Definition and Classification of Government Commissions	123
E. Functions of National Advisory Commissions	125
F. Membership	125
G. Funding	126
H. Lessons Learned	127
Timing of the Final Report	128
'Runaway' Commissions	128
Followup	130
Assessing the Contributions	130
I. Conclusion	131
J. Bibliography	132
CHAPTER 14. Lessons From the Past (Appendix A of The Global 2000 Report to the President)	133
A. Introduction	133
B. Historical Perspective, 1908-1967	134
The Theodore Roosevelt Administration	134
National Conservation Commission (1908)	134
The Hoover Administration	135
President's Research Committee on Social Trends	135
The Franklin D. Roosevelt Administration	136
National Planning Board; National Resources Board;	136
National Resources Planning Board 1933-42	136
The Truman Administration	138
President's Materials Policy Commission (1951)	138
Resources for the Future (1952)	140
The Eisenhower Administration	141
Outdoor Recreation Resources Review Commission (1958)	141
President's Commission on National Goals (1960)	143
The Kennedy Administration	143
National Academy of Sciences Committee on Natural Resources (1963)	143
The Johnson Administration	145
National Commission on Technology, Automation, and Economic Progress (1964)	145
Public Land Law Review Commission (1965)	145
Toward a Social Report (1967) and Other Studies of the Mid-1960s ..	146
C. The Last Decade	148
National Environmental Policy Act of 1969	148
Council on Environmental Quality	148
National Goals Research Staff (1969)	150
Proposal for a Center for National Goals and Alternatives (1970)	153
Commission on Population Growth and the American Future (1970)	155
National Commission on Materials Policy	158
National Growth Policy Reports (1972, 1974, and 1976)	161
Workshop on Alternative Energy Strategies (1974)	164
International Institute for Applied Systems Analysis (1972)	166

CHAPTER 14. Lessons From the Past (Appendix A of The Global 2000 Report to the President)—Continued	
C. The Last Decade—Continued	
National Commission on Supplies and Shortages; Advisory Committee on National Growth Policy Processes (1975)	167
D. Conclusions	171
Some Observations	171
Lessons from the Past	171
The Matter of Timing	173
CHAPTER 15. History of the Proposal for an Institute for Congress	175
A. Description of the Proposed Institute	175
Concept	175
Rationale	177
Relation to Congress	180
The Congressional Advisory Council	183
B. Course of the Attempt To Establish the Institute	184
The Organizing Committee	184
The Board of Trustees	186
The Search for Funding	187
Congressional Response	189
The Concluding Phases	191
C. Conclusion	193
D. Bibliography	195
CHAPTER 16. Interdisciplinary Studies on the Future	199
A. A Seamless Web	199
B. A Sense of the Reports	201
Population (Migration and Labor Force)	201
The World Economy	201
Ecosystems	201
Planetary Resources	202
Energy	202
Mineral Supplies	202
Technology	202
Development	202
C. Synopsis of the Five World Reports	203
North-South: A Programme for Survival	203
The Global 2000 Report to the President	203
World Development Report	204
World Conservation Strategy	204
Interfutures: Facing the Future	205
CHAPTER 17. Selected Future-Oriented Literature: an Annotated Bibliography	207
A. Introduction	207
B. Strategic Planning and Early Warning Systems	207
C. General Futures Topics	216
D. Energy and Strategic Materials	219
E. Environment and Agriculture	228
F. Economics and Labor	233
G. Science and Technology	239
H. Government, Law, and Society	243
I. Description of Four Futures-Oriented Journals	252
CHAPTER 18. Futures Oriented Think Tanks	253
A. American Enterprise Institute	254
B. Battelle Memorial Institute	254
C. The Brookings Institution	255
D. Center for Integrative Studies	256

	Page
CHAPTER 18. Futures Oriented Think Tanks--Continued	
E. J.F. Coates, Incorporated	257
F. Forecasting International	257
G. Futuremics	258
H. The Futures Group, Incorporated	258
I. Hudson Institute	259
J. Institute for Alternative Futures	259
K. Institute for the Future	260
L. Midwest Research Institute	261
M. The MITRE Corporation	261
N. National Planning Association	262
O. Portland State University Futures Research Institute	263
P. Predicasts, Inc.	263
Q. The Rand Corporation	264
R. Resources for the Future, Inc.	265
S. SRI International, World Business Division	265
T. U.S. Federal Aviation Administration, Office of Aviation Policy and Plans, Forecasting Branch (APO-110)	266
U. U.S. National Science Foundation, Technology Assessment and Risk Analysis Group (Division of Policy Research and Analysis)	266
V. University of Southern California, Center for Futures Research	267
W. World Future Society	267
X. Worldwatch Institute	268

CHAPTER 1. FORESIGHT: CONTEXT AND OVERVIEW

By Dennis L. Little, Specialist in Futures Research and Population Policy, Science Policy Research Division, with contributions by Walter A. Hahn, Senior Specialist in Science, Technology, and Futures Research and Timothy Biggs, Senior Research Assistant

History repeats itself. That's one of the things wrong with history.

CLARENCE DARROW

The more complex the problem which is being ignored, the greater are the chances for fame and success.

VON FOERSTER'S FIRST LAW

A. INTRODUCTION

There is a great deal of change occurring in our political, economic, and social systems and the pollsters tell us that people have an "almost desperate" need to understand what is happening and why. The public has the perception that our institutions within these systems are not coping. People appear to have been unprepared for the economic and social shifts which are occurring and for the average American the problems and opportunities they raise have come like a bolt out of the blue.¹

Many perceive government at all levels, but particularly at the Federal level, as unable to cope with the problems and issues which are disruptive to their lifestyle and to society. In the words of Daniel Bell, "Our political institutions do not match the scales of economic and social reality. The national State has become too small for the big problems of life and too big for the small problems." On the other hand John Gardner writes, "[at State and local levels there is] a tendency for the Federal Government to export its own chaos on down the line." Charles Schultze summed it up rather well, when he wrote, "ten years ago government was widely viewed as an instrument to solve problems; today government is widely viewed as the problem."²

While some or all of the issues and opportunities resulting from the changing profile may well be resolved, various State commis-

¹ Yankelovich, Daniel. *New Rules: Searching for Self-Fulfillment in a World Turned Upside Down*. [New York: Random House] 1981, and Yankelovich, Daniel. *New Rules*. Published in *What's Next*. Congressional Clearinghouse on the Future. Washington, D.C.; and Cleveland, Harlan. *The Management of Sustainable Growth*. Opening and Closing Remarks at the Third Biennial Woodlands Conference on Growth Policy, October, 1979.

² Cited in *Politics. What's Next?* Congressional Clearinghouse on the Future. Vol. 4, No. 3, 1979.

sions,³ regional studies,⁴ and congressional studies⁵ indicate new issues of equal or greater magnitude on the horizon. These reports and others have identified hundreds and perhaps thousands of emerging issues. They provide an impression that the future of the next five to twenty years will be considerably different than the past. While initially these studies and others appear to project a great deal of pessimism about the future they may be viewed with some optimism. If one assumes that some portion of the future may be influenced or shaped; other portions may be prepared for; and some portions, as has been the case throughout history, will simply happen without any widespread foresight, then there is some possibility of influencing the occurrence of these issues or their consequences. These issues are of a long-term nature. Yet, they often require short-term actions. However, critics charge that our political system has not yet found short-term incentives and benefits for dealing with long-term emerging issues.

Realizing that many of the issues raised (and the forecasts within them) implied a major transformation of the economy—in part or whole—and that many of the current changes in our political, economic, and social systems create a turbulence which baffle traditional policy analysts, Chairman John Dingell set a number of tasks for the Congressional Research Service (CRS). He asked CRS to identify and classify emerging issues relevant to the Committee's jurisdiction and to interests of Congress as a whole. A review of existing congressional mechanisms for shaping long-term energy policy with a view to determining whether they could be made more effective through the utilization of techniques for planning, forecasting, and analysis currently used in the private sector also was requested. Are new analytical tools and information bases needed to supplement the existing ones if policymakers are to deal effectively with the emerging issues and opportunities? In addition, can existing networks in the public and in the private sector for acquiring foresight information and identifying emerging issues be modified, expanded, or reconstituted to promote greater sharing of common understandings and interests, and reduce unnecessary duplication? And finally is there any requirement for a new congressional institution to assist Congress in these matters?

As the first step in this project, CRS prepared for the committee a report entitled, "The Strategic Future: Anticipating Tomorrow's Crises."⁶ This study was to identify a comprehensive, but not necessarily exhaustive list of potentially significant issues that have not yet become a focus of national policy discussion or, if discussed, have not been defined as ripe for legislative action. A reading of the issues selected suggests shortages of: (1) physical, monetary,

³ Bea, Keith A., et al. *The States Look to the Future: A Survey of Tomorrow 12001 Goals Organization*. Congressional Research Service Report 75-203 SP, Sept. 1975. This report is illustrative of the various activities. Since its completion, the foresight activities in some States have been completed while in others they have just begun.

⁴ 1980 Commission on the Future of the South. *The Future of the South: Preliminary Report*. February 21, 1981. Available from the Southern Growth Policies Board, Research Triangle Park, North Carolina.

⁵ U.S. Congress. Senate. Committee on Agriculture, Nutrition, and Forestry. *Renewable Natural Resources: Some Emerging Issues*. Washington, U.S. Govt. Print. Off., 1979, and U.S. Congress. House. Committee on Science and Technology. *Survey of Science and Technology Issues Present and Future*. Washington, U.S. Govt. Print. Off., 1981 are just two examples.

⁶ This report was released by the Committee, August 1981.

and intellectual resources; (2) management capability to deal with the complexities and uncertainties involved in the domestic socio-technical system; (3) consensus about domestic political, social, and economic goals; and (4) choices leading to political, social, economic and technological transitions without dislocations, hardships, risks, additional problems and unknown impacts.

These issues raise certain basic questions. First, how can the Congress or the Nation position itself to take advantage of future conditions? Second, how can they defend themselves against untoward future situations? Third, are modifications to our existing political institutions necessary, for the most pressing problems of today are often simultaneously global and local--and each level can be as complex and sophisticated as the other? The CO₂ (green house) issue is a clear illustration of a potential problem that is both national and global. The United States and much of Western Europe are seeking to substitute coal for gas. According to Robert Hamrin, formerly at the Environmental Protection Agency, if such expansion occurred, atmospheric CO₂ could be double by the year 2050 which in turn could lead to an increase in global surface temperatures; a rapid melting of the polar ice caps; and a rise in the sea level which would cover the major coastal cities of the United States.⁷ The problem is that there currently is not adequate information to confirm or dismiss this forecast, and it conflicts with current public and private short term energy policy. The example illustrates a class of problems for which Congress lacks coherent, readily available information on the event, as well as second and third order consequences that might happen in the near and long-term future. In short, Congress lacks an adequate early-warning system either to avoid impending difficulties or to seize forthcoming opportunities. The foresight process involves identifying a wide variety of future events and trends that require or enable congressional attention or action to influence potential societal, technological, economic, environmental, or political impacts. An immediate practical problem is how to avoid the dual hazards of dealing with each of a plethora of situations in isolation and facing the intractability of dealing with "everything" at once.⁸

This report builds on the first report, but may be read independently. It focuses on the conceptual framework for forecasting and for identifying, analyzing, and dealing with strategic future issues and on the identification of the network of institutions and people (think tanks, commissions, and recent futures literature) available for identifying strategic issues, analyzing them, and dealing with them. This chapter briefly describes the changing socioeconomic profile of the United States and provides a capsule overview of each of the other chapters in this report. Chapters 1 through 6 focus on the governance issues emerging in the post-industrial or information society. Chapters 7 through 12 are selected retrospective forecasting case studies. Chapters 13 through 16 survey commissions, institutions, advisory bodies, and global studies concerned with long-term domestic and international issues. Chapters 17 and

⁷ Hamrin, Robert. Prospects for the 1980s. Unpublished paper, 1980, p. 26-27.

⁸ This theme is developed further in the final chapter of "The Strategic Future: Anticipating Tomorrow's Crises" released by House Energy and Commerce Committee, Aug. 15, 1981.

18 identify selected sources--institutional and bibliographic--of foresight information. This report concludes with a brief description of the remaining steps in this research project.

B. THE CHANGING PROFILE OF AMERICA

Over the last 20 years there has been considerable change in the domestic economic, social, and cultural profile. While recognizing that numerous books, monographs, and articles have been written on this subject, the authors have attempted to highlight only a few selected changes within these areas.

The Economic Profile⁹

The United States has moved, in a little over 100 years, from an economy where 90 percent of the work force was agriculturally based, to a manufacturing economy, and to a service based economy, and now, by some calculations, to an information based economy. Currently, less than four percent of the workers employed are in the agricultural sector. Less than nine percent of the population or less than 20 percent of the employed workers manufacture goods for over 230 million people.¹⁰ Since 1959 in the United States over half of those employed are in the service industries.¹¹ And, examining this employment data with a different emphasis, Marc Porat, in a study done for the U.S. Department of Commerce, notes an even more significant change. Since 1975 over 50 percent of the work force has earned their income primarily from the manipulation of various types of information. The distinction is one of degree rather than kind since all human endeavor contains some component of information processing.¹² In just a little over a quarter of a century the information work force has grown from about half to double the size of the industrial work force the size. One recent survey estimated that 80 percent of the manager's day is spent in 150 to 300 "information transactions".¹³

GLOBAL INTERDEPENDENCE

Along with these shifts, global economic interdependence has deepened over the last 25 years with the multinational corporation becoming a critical international link. A multinational corporation may do research in one country, manufacture components in another, assemble them in a third, sell the manufactured goods in a fourth, and deposit its surplus funds in a fifth. In 1980, at least

⁹ Portions of this section are drawn from: Dennis Little. *The Changing Profile of America*. Washington, Edison Electric Institute [Decision Makers Book Shelf], forthcoming.

¹⁰ Toffler, Alvin. *The Third Wave*. [New York, William Morrow and Co.], 1980.

¹¹ Hamrin, Robert. *Managing Growth in the 1980s: Toward a New Economics*. Praeger Special Studies. New York, 1980, p. 16. There exists no authoritative consensus on either the boundaries or the classification of the service industries. It includes personal services (beauty and barber-shops, lodging and eating places, entertainment, and repair services); business services (banking, insurance, accounting, advertising, and legal services); distributive services (transportation, communication, and wholesale and retail trade) and social services (medical and education services, welfare, and Government). For further detail the reader should refer to: Allen, Julius W. *The Service Sector in the American Economy Today: An Overview*. CRS Report No. 81-276E, Dec. 28, 1981.

¹² Porat defines the "primary information sector" as those firms and other institutions producing information goods and services for sale in the market. The "secondary information sector" is defined to information services produced for internal consumption by government and non-information firms.

¹³ Toffler, Alvin. *The Third Wave*. p. 203.

10,000 companies in the non-Communist high-technology nations had affiliates outside of their own countries, with 2,000 of them having affiliates in six or more other countries. Put in slightly different terms, of 382 major industrial firms with sales of over \$1 billion, 242 had 25 percent or more "foreign content" measured in terms of sales, assets, exports, earnings, or employment.¹⁴

This global economic interdependence is reflected in numerous other statistics which reflect a change in the economic profile of the United States. For example, between 1967 and 1979, imports of iron and steel to the United States increased by 313 percent, autos by 341 percent, machinery by 501 percent, and chemicals by 508 percent. In 1960 the United States produced 25 percent of all world manufacturing exports. By 1979 that figure had dropped to less than 17 percent.

Patents and products brought to market are two additional indicators of changed industrial patterns. The United States patent office awarded 28 percent of all patents to foreigners in 1975, up from 13 percent ten years earlier. From the late 1950s to the late 1960s the percentage of products, developed and marketed in the United States, dropped from 82 percent to 55 percent—over 25 points.¹⁵

The shift in price and availability of liquid fuels are a global issue of key importance to the House Energy and Commerce Committee as well as the United States as a whole. Thirty years ago roomy sedans, low gasoline prices, and Sunday driving were a way of life. Today with the emergence of OPEC (Organization of Petroleum Exporting Countries), and gasoline prices over a dollar a gallon, consumers are looking for energy-efficient compact cars and leisure drives are becoming less and less frequent.¹⁶

COMPARISON OF THE 1960S, THE 1970S, AND EARLY 1980S

Along with the above shifts, the performance of the economy during the 1970s was considerably poorer than the performance during the 1960s. This is described in Table I.

TABLE I. Economic Performance in the 1960s, 1970s, and Early 1980s

Variable	[Average Annual Percentage Change]			
	1960s	1970s*	1980**	1981
Economic growth rate (real GNP).....	4.1	2.8	-.2	1.9
Inflation rate (CPI).....	2.5	6.8	12.4	8.9
Unemployment.....	4.8	6.2	7.1	7.6
Productivity growth.....	3.0	1.6	-.2	1.0
Real wages.....	1.5	0.0	-5.8	-1.5
Balance of merchandise trade.....	\$4.1	-\$ 5.6	-\$25.3	-\$18.5
(in billions of current dollars).....				
Federal deficit.....	-\$5.5	-\$29.8	\$59.6	-\$57.9
(in billions of current dollars).....				

* The figures are based on data available through January 1979.

** Data reflects only the first three quarters.

Source: Hamrin, Robert. *Managing Growth in the 1980s*. Toward A New Economics, p. 2. Figures compiled by Hamrin, and Economic Report of the President. Transmitted to the Congress, Feb. 1982.

¹⁴ Toffler, Alvin. *The Third Wave*. p. 386.

¹⁵ O'Toole, James. *How to Forecast Your Own Working Future*. *The Futurist*, vol. XVI, no. 1. Feb. 1982, pp. 9-10.

¹⁶ Thompson, William F. Karaganis, Jeorme J. and Kenneth Wilson. *Choice Over Chance: Economic and Energy Options for the Future*. (Praeger: New York), 1981, p. 5-6.

The unanswered question is whether the economic performance of the 1970s and early 1980s is merely bad luck or a temporary aberration of an otherwise healthy economy; or is the United States, and perhaps the globe, in the midst of a profound structural transformation to a new economic era where traditional economic analysis and policies are becoming less effective? Or does the truth lie somewhere between?

The Social and Cultural Profile

Admittedly there is also a great deal of continuity in American life, but some important things appear to be changing. For example, in the 1950s approximately 70 percent of all households consisted of a working father, a stay-at-home mother and one or more children. In the 1980s, this type of family accounts for only 15 percent of all households and is clearly outnumbered by single person households which constitute 23 percent of all households. Over the same period of time the birthrate has fallen from the 3.7 births per woman of childbearing age in the 1950s to a rate of 1.8 births, which is well below the population replacement rate. Studies by Yankelovich, and others, show that unlike most American women in the recent past, tens of millions of women no longer regard having babies as self-fulfilling. During the 1970s, approximately one million Americans each year had themselves sterilized.¹⁷

CHANGES IN FAMILY FORMATION

Over the last decade or two significant changes have taken place in those patterns of behavior that relate to the process of family formation. In 1979 and in 1980, there were more marriages performed than in any previous year. However, an increasing proportion of these marriages are remarriages for the bride or groom. Statistics published by the National Center for Health Statistics reveal that only about 68 percent of the brides in 1979 were marrying for the first time as compared with 77 percent in 1969. In fact the marriage rate for 1979 was the lowest for any single year since 1940.

Table 2. Marriage Rate Per 1,000 unmarried women 15 years of age and over,¹⁸ by Year

	<i>Per 1,000</i>
1940	82.8
1945	83.6
1946 (highest)	118.1
1955	71.9
1965	70.5
1969	80.0
1970	67.6
1975	66.7
1979	63.6

Rates are calculated on the basis of 1,000 unmarried women 15 years and over. U.S. Department of Commerce, Bureau of the Census, Statistical Abstract of the United States: 1980, and National Center for Health Statistics, Vital Statistics of the United States, vol. 3, Marriage and Divorce.

¹⁷ Yankelovich, Daniel. *New Rules: Searching for Self-Fulfillment in a World Turned Upside Down*. New York, Random House, 1981. pp. xvi, xvii; and Bureau of the Census, *Fertility of American Women*, June 1979, Series P-20, No. 358.

First marriages are occurring at a later date. The percentage of females between the ages of 20 to 24 years and 25 to 29 years of age never married almost doubled between 1960 and 1980.¹⁹ Married couples are delaying having children and are having fewer children so that statistically the average married couple of today can expect to live "child free" for about 14 more years than their own parents did.²⁰

The increase in the divorce rate is a social change that is more widely known than the decline in the marriage rate. Between 1965 and 1979 the divorce rate increased by 115 percent, from 10.6 per 1,000 married women aged 15 and over to 22.8 per 1,000. In 1981, the number of divorces reached a record high 1.3 million. If current trends continue, one half of all marriages could end in divorce, and 50 percent of the children under 18 will spend a significant portion of time with only one parent.²¹

WOMEN IN THE WORKFORCE

Changes in the family structure and in the educational attainment of women coupled with the marked rise in the rate of inflation during the last decade have led more and more women into the workforce. From 1960 to 1980 the number of women in the labor force increased by over 20 million and the percentage of women in the labor force rose from almost 38 percent to just over 51 percent—a 13 percent increase.²² In 1980, more than half of all women of working age were in the civilian labor force. Fifty-two percent of all working wives with children under 18 were in the labor force compared with 79 percent of all divorced women with children. Forecasts for this decade vary, but one study by the Urban Institute forecasts a net increase of one million women a year for the remainder of the decade.²³

Married women frequently entered the work force to help their family get ahead, and in the 1970s as inflation took its ravages, many women felt compelled to enter the labor force to supplement family income. But as Yankelovich notes, these families have run out of potential wage earners so that the cushion which absorbed some of the economic distress and insecurity of the 1970s is gone. "There is a sense of insecurity which comes from not understanding what the ravages of inflation are going to be."²⁴

CHANGING ETHNICITY

Along with the changes in the patterns of behavior that relate to family formation have come growing changes in the ethnicity or racial composition of the United States. Estimates by Michael Tittelbaum, former staff director of the House Select Committee on

¹⁹ Bureau of the Census. Marital Status and Living Arrangements, March 1980. Current Population Reports, Series P-20, No. 365 (1981), Table 1.

²⁰ Population Reference Bureau Inc. Population Bulletin: Marrying, Divorcing, and Living Together in the U.S. Today, v. 32, no. 5, [Washington] Oct. 1977 and Feb. 1979, p. 20-21.

²¹ National Center for Health Statistics. Monthly Vital Statistics Report., vo. 30, no. 12, Mar. 18, 1982, p. 3; and Weed, James A. Status of Families. Unpublished paper, Sept. 1981, p. 3-4.

²² Smith, Ralph. The Subtle Revolution: Women at Work. [Washington: The Urban Institute], 1979.

²³ Smith, Ralph. The Subtle Revolution: Women at Work. p. 15-16.

²⁴ Yankelovich, Daniel. New Rules. What's Next? Congressional Clearinghouse on the Future. Vol. 6, No. 3, Nov. 1981.

Population, and Leon Bouvier of the Population Reference Bureau indicate that 40-50 percent of the population growth in the United States is due to legal and illegal immigration. A rapidly growing Mexican population, the Cuban and Haitian exodus, unrest in southeastern Asia, and relative economic prosperity in Western Europe are some of the factors that account for the shift in the sources of immigration to the United States from Western Europe to Asia, Mexico, and Latin America. Table 3 reflects these shifts.

TABLE 3. Legal Immigration to the United States by Continent, Fiscal Years 1956-65 and 1967-76 ²⁵

Continent	1956-65	1967-76	Percent Change
Europe	1,400,051	1,016,110	- 27.4
Asia	224,342	1,052,688	+ 369.2
Africa	22,924	63,978	+ 179.1
North America	1,050,983	1,507,434	+ 43.4
South America	167,772	212,778	+ 26.8
Other	12,081	30,231	+ 150.2
Total	2,878,153	3,883,219	+ 34.9

²⁵ Departments of Justice, Labor and State U.S. Interagency Task Force on Immigration Policy, Staff Report, Mar. 1979, p. 124.

Increasing Hispanic immigration, coupled with a higher birth-rate for Hispanics already in the United States, has made the United States one of the largest Spanish speaking nations. The 1980 Census showed an increase since 1970 of over 5.3 million persons of Hispanic origin, and these trends are likely to continue, because for the median age of Hispanic persons (22 years) is substantially lower than that for persons not of Spanish origin (31 years).²⁶

AN AGING NATION

In terms of population dynamics, we are experiencing a "greying" of America. At the beginning of this century approximately four out of every 100 Americans were over the age of 65. By 1950 the number had doubled to eight out of every 100 Americans; in early 1980 it stood at 11; and by 2030—less than 50 years from now—from 17 to 22 Americans out of every 100 are expected to be over 65 years of age.²⁷ Put in slightly different terms, from 1900 to 1980, the population of the United States increased 198 percent, but the population over the age of 65 increased by 723 percent.

The increase in size of our nation's elderly population is largely due to improvements in life expectancy. These improvements are likely to lead to changes in individual and family life cycle patterns. As illustrative it has been calculated that in 1940, a 20 year old could expect to live approximately seven percent of his or her adult life in retirement. By 1977 this percentage had more than tripled so that a 20 year old could expect to be retired for 23 percent of his or her adult life—nearly one quarter of the time.²⁸

²⁶ Bureau of the Census. U.S. Department of Commerce. Persons of Spanish Origin in the United States. Mar. 1980. Current Population Reports. Series P-20, No. 361, issued May 1981. Fertility of American Women, June 1979, Current Population Reports. Population Characteristics, Series P-20, No. 358, p. 6.

²⁷ Miller, Roberta Balstad. Unpublished Notes. Dec. 8, 1981.

²⁸ Early retirement is not considered in these calculations; neither is an extension of the 65 year retirement age.

In addition to the population, other aspects of our nation are aging. Our Nation's public facilities are aging to the point that, in some areas, they are wearing out faster than they are being replaced. Over 8,000 miles of the Interstate Highway System and 13 percent of its bridges are now beyond their designed service life and must be rebuilt. The costs of rehabilitation and new construction necessary to maintain existing levels of service on non-urban highways are forecasted to exceed \$700 billion during the 1980s. The 756 urban areas with populations of over 50,000 will require between \$75 billion and \$110 billion just to maintain their urban water systems over the next two decades. The road beds and rolling stock of the railroads of the Northeast and Midwest clearly have deteriorated with age and inadequate maintenance and in the same sections of the country. Our larger central cities have aged to the extent that the biggest, New York City, must spend over \$40 billion in the 1980s to repair, service, and repair its public works facilities. Over one-half of the Nation's 3,500 jails are over 30 years old, and forecasts indicate that from 1,300 to 3,000 of these will have to be totally rebuilt or substantially rehabilitated in the 1980s.²⁹

Educational Attainment

Trend data on changes in educational attainment over the 1970s is somewhat contradictory. During this decade the number of persons, aged 3 to 34 years, enrolled in school has declined about 2.5 million, while over the same period the percentage of the population, age 25 and over, completing high school increased from 55.2 percent to 68.7 and completing college rose from 11 to 17 percent. Perhaps the most striking development during the 1970s was the rapid increase in female college enrollment to the point that female college enrollment currently exceeds male enrollment. While statistically the number of persons enrolled during the 1970s decreased, the number increased moderately among Blacks from 7.8 to 8.3 million and rapidly among the Spanish origin population from 2.8 to 4.3 million.³⁰

While these statistics indicate increasing levels of educational attainment, other studies and data indicate a growing number of functional illiterates in the United States. Millions of people are excluded from the job market, for even the simplest jobs demand people capable of reading forms, on-off buttons, paychecks, job instructions, and the like. For many young people passage from school to work appears to be long and painful.³¹

In addition to functional literacy, there is a scientific and technical literacy question. Scientific and technical literacy appear to be increasingly necessary in our society, but the percentage of students enrolled in mathematics or science courses after the tenth grade has been declining since the early 1960s, and this trend

²⁹ Choate, Pat and Susan Walter. *America in Ruins: Beyond the Public Works Pork Barrel*. Council of State Planning Agencies. Washington, 1981, pp. 1-3.

³⁰ Latest Profile of America's People. U.S. News and World Report. Sept. 14, 1981, pp. 26-28. Bureau of the Census. *Educational Attainment in the United States: March 1979 and 1978*. Current Population Reports. Series P-20, No. 356; and *School Enrollment-Social and Economic Characteristics of Students: Oct. 1979*. Current Population Reports, Series P-20, No. 360.

³¹ Toffler, Alvin. *The Third Wave*. p. 189, and Wirtz, Willard. *Education and Work*. Third Biennial Woodlands Conference on Growth Policy. Oct. 1979. Conference draft, p. 37.

shows no immediate sign of abating. It is expected that people in a wider range of nonscientific and nonengineering occupations and professions will need a greater understanding of technology than at any time in our history. Yet the educational system does not appear to be providing the understanding. And in addition the United States now lags behind Japan, West Germany, and the Soviet Union in the proportion of engineering graduates per year per capita.³² (This is a reversal of patterns prevailing in earlier decades.)

Implications of the Changing Profile

The changes described above provide only a suggestive skeleton of the changing profile of the United States. The review was not meant to be exhaustive or comprehensive, but merely illustrative. Others with different backgrounds, interests, or perception might wish to add, delete, or substitute concepts and trends. The basic question still remains. Are these aberrational, evolutionary or transformational changes? Or are they a bit of a mix?

C. THE ISSUE OF GOVERNANCE

In the opening chapter Peter Schwartz of SRI International notes the growing societal conflict between central control and individual freedom. He cites three possible ways of measuring the freedom of a society? (1) the degree by which the major institutions are accountable to the people, (2) the central role of individual choice; and (3) the strength and extent of legally guaranteed civil rights. While we have experienced approximately two centuries of advances in human freedom, the integral aspects of these advances (advances in science and technology, industrialization, etc.) may now be a threat to them. Numerous systems problems have arisen. These include:

- a perceived increase in the levels of violence,
- a rise of functional illiteracy,
- strains on the economy,
- rising relative deprivation as a result of leveling off or decline in real income,
- a loss of a sense of shared identity,
- traditional centers of power no longer being recognized as legitimate.

Schwartz sees the rapidity of change in all of our major systems as reducing the time allowed for careful consideration of the issue; the number of societal inputs; and the probability of a consensus. As the domain of knowledge has grown, the resulting specialization has narrowed rather than broadened our capacity to respond. The growth in the scale of the issues and the increase in the absolute number of items on the agenda has reduced the time available for any one decision.

³² National Science Foundation and the Department of Education. Science and Engineering Education for the 1980s and Beyond. Oct. 1980, pp. vii and viii, and Committee on Science and Technology. U.S. House of Representatives. Survey of Science and Technology Issues Present and Future, 97th Cong., 1st Sess., June 1981, p. 189.

Schwartz perceives that we are demanding more from our centralized institutions, but we are losing faith in their ability to produce quality service. Decentralization is one answer; but, it is far easier to propose than accomplish. Other possibilities include: education in civic or social responsibility; movement from the hierarchical organizational model to the collaborative multiple leadership model of the Japanese; and increasing the power of the individual to resist coercion.

The issues raised in Schwartz's paper are in part a result of the Federal Government doing "more" in at least two different senses of that term. Each of these has generated problems of complexity and coordination. First, in terms of the original functions of the Government, it now does more of each function. The Government now pays pensions not just to its own workers and war veterans, but to almost everyone. The Government still delivers mail but with advances in science and technology, it now regulates a whole series of communications industries and has created a complex system of interstate highways as well as airports and aviation routes. These activities affect a much larger network--mayors, governors, air traffic controllers, transportation unions, auto manufacturers, etc.--and the claims of all these groups must be coordinated.³³

Governmental functions also have expanded to touch almost every aspect of our life. By contrast, approximately 120 years ago, all Federal activities could be grouped under five categories: postal services, customs work, defense-diplomacy, opening up new lands, and Indian affairs. The fuller the Government agenda becomes, the more policies and public agencies seem to bump into each other in confusing and unexpected ways. The various policies currently being proposed to promote economic growth seem, in some instances, to conflict with environmental objectives. These types of issues clearly create a second-order complexity-coordination problem.³⁴

As Government has grown in each of these areas, the issues and opportunities which have emerged can no longer be classified as "domestic" or "foreign", for many are both at the same time. Energy pricing and availability are clear illustrations of this. In addition many major policy questions are not subject to either "public" or "private" jurisdiction, for they straddle the two domains. Energy is again a clear illustration, for the long-term answers concerning form, price, and availability must come from the combined efforts of both sectors. Neither sector can force their views upon the other in a pluralistic democratic society.³⁵

Self Help and Technology: Two Important Dimensions

Bruce Stokes and Joseph Coates in their chapters explore in greater depth some of the issues raised by Schwartz. Stokes focuses on the question of self help and the role of government, individuals, and communities in solving their own problems. Like several

³³ The "mores" described in these paragraphs are discussed more fully in Heelo, Hugh. Introduction: The Presidential Illusion in *The Illusion of Presidential Government*, edited by Hugh Heelo and Lester M. Salamon, Westview Press, 1981, pp. 3-4.

³⁴ Ibid. p. 3.

³⁵ Deleted by author.

other contributors to this group of chapters, he sees the traditional problem-solving mechanisms of society as being overwhelmed. He believes that we may be reaching the human, institutional, and financial limits of democratic, multicentered government. In a world of rising expectations and economic growth, Americans earlier found it cheaper to allow someone else to do it for us. This situation no longer exists, and people are not willing to turn their lives over to big government nor are they willing to fund it.

Stokes believes self help may be one possible answer, because democracy requires an active and informed citizenry, and self help gives the individual citizen some control over the necessary information and solutions. Urban gardening, urban homesteading, and home maintenance and repair statistics were a few of the areas Stokes cited to indicate citizen support for the self help movement. Stokes believes that government should have centralized and decentralized functions. Analysis, data gathering and goal setting should be centralized, but one should decentralize, to the lowest level possible, the immediate responsibility for problem solving. The self help movement may strengthen the democratic governmental process by reducing people's expectations of it.³⁶

Coates in his paper looks at the role of technology in enhancing or distorting democracy. He sees technology as the dominant factor influencing democracy, and perceives information and information technologies as being one of the prime areas of concern. He notes that the increasing complexity of our society demands expert knowledge, but this demand is at odds with the democratic process. Who are the experts and how are they to be certified? These are questions that have never been satisfactorily answered by the democratic process in Coates' view. In addition, most of the critical problems of today go beyond the boundaries of any one discipline or expert, and finally unlike our private economic organizations where the central authority is clear, the authority given our public organizations for collecting, organizing, and presenting information rarely, if ever, matches the scope of the problem. Being informed about society is essential to a democracy, but technology and its consequences are clearly not understood by much of today's citizenry.³⁷

The Learning Society

In chapters 5 and 6, social psychologist Donald Michael and political scientist Roger Davidson examine how the behavior of individuals and organizations must change if we are to develop the competency to deal with the issues raised by Schwartz, Stokes, Coates, and others, and what all of this means to Congress. Michael urges that organizations be reconceived so that they become learning organizations. This involves acknowledging uncertainty; embracing error as integral to coping with new situations; creating new struc-

³⁶ John Naisbitt publisher of the Trend Report notes that in 1980 there were six jurisdictions in the U.S. where more than 90 percent of the people voted. Only half of the people voted in the 1980 presidential election.

³⁷ For further detail see: Nation Science Foundation and the Department of Education. Science and Engineering Education for the 1980s and Beyond. The critical question for Coates appears to be, what role can the new information technologies play in educating the citizenry about society, and in making the alternatives distinct and understandable?

tures which span information boundaries; encouraging open communication; and adding intuition and feelings into a common information base.

The acknowledgment of uncertainty is receiving greater recognition at this time as one looks at the conflicting budget deficit estimates of the Reagan Administration and the Congressional Budget Office. This would seem to imply the recognition that all decisions are made with some degree of uncertainty, and because of this uncertainty, a conclusive and timely decision may not always be made. Michael's point is that it is important to create conditions so that the decision could be reopened prior to full implementation should the conditions warrant it. However, for this to occur a long political and administrative tradition must be overcome, because for almost two centuries the citizens of the U.S. have been taught that elected officials are supposed to know the right questions and make the right decision, and bureaucracies that make an incorrect decision require greater oversight and control.

Implications for Congress

The dilemmas thrust upon Congress by the scale of modern society and its problems is the focus of Davidson's paper. The Framers of the Constitution believed that large, populous communities could be ruled democratically through the application of representative practices. As envisioned by the Framers, and as it actually developed during the early decades of the Republic, Congress was composed of a relatively small number of Members interacting face to face on behalf of manageable numbers of constituents. Needless to say, the present-day Congress is a far different type of institution than the one that was originally envisioned. Its spectacular growth—in number of people as well as in bricks and mortar—has profoundly affected its operation as a representative assembly.

In his paper, Davidson poses a series of questions concerning the role of representative decisionmaking in an era of bigness and complexity. What quality of representation can be achieved under such circumstances? What personal or organizational strategies can be adopted to preserve the essential qualities of representation in an environment of large-scale institutions?

Particularly troublesome for Members of Congress is the escalating conflict between legislative and constituency roles, in view of steeply rising expectations in both areas. Nor are these expectations likely to abate. Among the conceivable ways of coping with this problem, Davidson identifies three possibilities. Members could continue their present pattern of responsibilities; they could rely more heavily upon technological aids; or they could restructure their jobs to try and meet the demands pressed upon them. Whatever strategy is eventually adopted, Members will benefit from assessing the dimensions of the problem and mapping out the costs and benefits of future behaviors.

D. FORECASTING PUBLIC POLICY ISSUES

In examining Congress' use of forecasted trends and emerging issues, one of the first steps is to ascertain what can be learned from previous experiences. The scope of this project precluded an

agency by agency review of the accuracy of previous forecasts. To a certain degree this already had been done by William Ascher in his book *Forecasting: An Appraisal for Policymakers and Planners*.³⁸ In addition, accuracy is not always the prime consideration of the policymaker nor are forecasts necessarily made to influence a particular consideration. To illustrate, if two planes are in flight patterns that indicate collision if they continue, the value in the forecast is not in the collision guaranteeing the accuracy of the forecaster, but the value is in intervention and reducing the probability of collision. Currently, numerous studies have forecasted the potential bankruptcy of the social security system. This potential is the result of an economic "collision" between a declining birthrate and an aging population. The value of the forecast is that it alerts the Congress to the need to intervene in the system—assuming the forecast is plausible and the intervention politically feasible—to keep the forecast from coming true.

Some forecasts may be merely informational. If so and they are explicit enough to receive attention from the decisionmaker, the forecasts can alter the decisionmaker's perspective by changing the focus of attention and the climate of opinion in which the decisionmaker operates. Rachel Carson's *Silent Spring* is one example of this. It was never used to calculate optimal ecological policies, but no one would deny its impact in focusing attention on ecological concerns. If a credible forecast underscores a particular future problem, it raises the expectation of action on that problem. On the other hand, with the lack of goal consensus in the public arena, governmental policymakers may prefer to ignore forecasts they regard as accurate which promote priorities other than their own. They may disregard forecasts that emphasize more distant problems when the political significance of current concerns is more compelling.³⁹

In just over a decade, the House Energy and Commerce Committee has seen forecasts for U.S. nuclear power capacity fall to approximately one-tenth of the capacity forecasted by the Atomic Energy Commission in 1972. The range of forecasts over time are shown in table 4. The forecasts of the 1950s that reactors would generate abundant and cheap electricity are no longer being made.

Unprecedented and unforeseen sustained inflation is one of many reasons for the curtailment of planned nuclear expansion. This same inflation, coupled with the several-fold increase in the time required to complete public and private sector projects, has caused additional problems for the public utility industry. The backlog of uncompleted projects in the public utility industry rose during the 1970s from about \$35 billion to more than \$122 billion. At the 1980 level of inflation, each 12 month delay, according to calculations performed by Pat Choate at the Academy for Contemporary Problems, reduces the purchasing power of these public utility funds by some \$22 billion. This amount is roughly equal to the total investment made by all businesses for environmental control

³⁸ Ascher, William. *Forecasting: An Appraisal for Policymakers and Planners*. Baltimore: Johns Hopkins University Press, 1978, 239 p.

³⁹ Ascher, William. *Forecasting: An Appraisal for Policymakers and Planners*. p. 18-25.

equipment in the U.S. in 1979.⁴⁰ Since the average time for siting and building a nuclear power plant in the United States now extends beyond ten years, the importance of this one variable in obvious.

TABLE 4.⁴¹ Changing Projections of U.S. Nuclear Power Capacity 1972-81*

Year of Forecast and Forecaster	By end			
	1980	1985	1990	2000
	Gigawatts			
1972 Atomic Energy Commission	130	268	460	1,010
1975 Atomic Industrial Forum	90	182	340	800
1978 Department of Energy	---	127	200	410
1980 Atomic Industrial Forum	56	104	138	257
Department of Energy	---	98	130	180
Nuclear Regulatory Commission	49	95	126	145
1981 Worldwatch Institute	49	85	120	115

⁴¹ Adapted from Brown, Lester. *Building a Sustainable Society*. (New York, W.W. Norton and Company.) 1981, p. 75.

*Where a range is projected the midpoint was selected by the Worldwatch Institute for this compilation.

The Energy Shortage

Chapters 7 to 12 of this report present six retrospective case studies dealing with selected public policy issues and the lessons learned from them. In chapter 7 John Schanz explores the issue as to why the forecasts of M. King Hubbert and others in 1966 that the United States would most likely find itself in a downtrend in oil and gas production in the 1970s were not heeded. Hubbard's forecasts were built on a foundation of knowledge about the occurrence of oil and gas, the characteristic behavior of exploration activity, the real price of oil and gas versus other energy forms, and the likely progress of technology. The essence of his research was that a decline in the discovery rate of oil and gas will be observed approximately ten years in advance of a production rate decline. Since the discovery rate began to drop off in the early 1960s, one could expect a drop in the production rate in the early 1970s. This information has been available to every President and to every Congress since President Kennedy but never commanded a high priority until after the forecasted events occurred.

Schanz suggests several reasons for this. First there was the underlying faith that technology, perhaps nuclear, would provide the long term solutions. Second, the protection of domestic oil from cheap foreign sources was for many a higher level concern. Third, during the critical 20 year period, there were five new Presidents. Each President and his staff had to relearn the short term and long term energy issues. As a result, there was very little institutional memory.⁴² Fourth, there were numerous other forecasts

⁴⁰ For further development of this concept the reader should refer to *As Time Goes By: The Costs and Consequences of Delay*. (Washington, D.C.; Academy for Contemporary Problems), 1980, p. 1-24.

⁴² To overcome this conceptual problem a Panel of the National Academy of Public Administration in a Report on Presidential Management has recommended that the Executive Office of the President develop institutional arrangements for longer term policy research and analysis. "One approach would be to establish a new office headed by a Director who reports to the Presi-

Continued

available to support the case for alternatives to Hubbard's prediction. Anyone who had a specific energy future in mind could pick and choose the information set needed to support his case. Others have suggested that what was needed was a detailed examination of the plausibility of the assumptions behind the various forecasts. On the other hand, this might complicate an already difficult situation. Federal officials face an overwhelming diversity of problems which are surrounded by a vast flow of frequently indiscriminate information. Adding more information to an already overloaded system is not necessarily the answer. Still others have suggested that this role could best be accomplished by one of the congressional support agencies or perhaps by the creation of a new foresight institution for Congress similar in concept to RAND at its inception.

Mandated Oil Import Program

Alvin Kaufman's case study focuses on forecasts related to the mandated oil import program. The program began in 1959 with imports at less than ten percent of demand, excessive domestic capacity, world oil prices below domestic, and rapidly rising imports. Its stated objective was to promote national security by restricting the flow of imported oil. It would achieve this purpose by protecting the higher cost domestic petroleum and coal industries from the competition of lower cost foreign imports. The program ended in 1973 with imports close to one-third of demand, virtually no excess capacity, world oil prices above domestic levels, and rapidly rising imports. This is a clear case, where the uncertainty of our foresight assumptions, as discussed in this report by Donald Michael, was overlooked or ignored. The availability of Western Hemisphere crude oil was continually overestimated and the ability of foreign countries (later OPEC) to restrict oil supply and set world prices was underestimated. As a result, the operational forecasts of petroleum prices, production, imports, and their impact on national security were in error. Kaufman notes that energy imports and price were decided as political issues, and when prices are determined on a political basis they are often at variance with the underlying economic realities.

Amtrak

The case study developed by Kenneth DeJarnette described the creation of Amtrak as a political decision with major economic components. The decision stemmed mainly from a congressional intent to minimize hardship on a large number of transportation-dependent persons and communities. Amtrak, the National Railroad Passenger Corporation, was created and began operation in 1971 on the basis of its' becoming a profit-making enterprise. In that year the Federal Government authorized \$40 million in operating expenses and \$100 million in loan guarantees for capital acquisitions. By the end of fiscal year 1980, total Federal commitments to Amtrak had reached \$6.6 billion in operating subsidies

dent. Another would be to develop a more fluid system of long term working assignments among the core staff of the Executive Office. In any case, this function should operate on a continuing basis within the Presidency." Nov. 1980.

and capital acquisitions. The institutional division of authority between the Department of Transportation, the Interstate Commerce Commission, and Congress in operating Amtrak has prevented the maximization of efficiencies and economies. DeJarnette reports that most analysts have abandoned the hope of Amtrak becoming a self-sustaining enterprise. Only one set of forecasts was used and these in retrospect appeared to rely on questionable long term assumptions. As Kaufman noted, when prices are determined on a political basis, they are often at variance with the economic realities.

The case studies developed by Kaufman and DeJarnette illustrate quite clearly that the social system of the United States is constituted of three distinct but interdependent systems of institutions, organized along different axes and different values: a political system, an economic system, and a moral-cultural system. Each system plays an important role in strengthening and restraining the other two.⁴³

U.S.-U.S.S.R. Grain Sales

The case study developed by Barry Carr examines forecasts related to the U.S.-U.S.S.R. grain sales under the Nixon Administration. Forecasts of the benefits of this sale were apparently intuitive and based on the assumption that the future would be a continuation of the past. The basic assumption was that the world and U.S. food surplus of the 1960s would continue. A systematic examination of world trends, at the time, might have shown this assumption to be much more questionable. To illustrate this point, Carr cites four trends. First, world population was growing at a faster than anticipated rate. Second, individual governments were becoming more sensitive to hunger and malnutrition. Third, the Communist countries had shifted from surplus food producers to net importers. And fourth, the impressive yield gains of the 1960s had plateaued. Although there were over 200 economists and analysts at the Department of Agriculture at the time, there was no one place for systematically monitoring these trends and providing an early warning system. In addition USDA required no reports from exporters on grain sales. This requirement was dropped in 1971 as having no commercial value. Only a single forecast for exports was used and it was underestimated. As a result of a poor production year in 1973, the world food picture changed from surplus to shortage. The U.S./U.S.S.R. grain deal left the United States less able to deal with the shortage. A systematic monitoring system of long term trends might have made Congress more aware of these interrelationships.

Urban Growth and Demographic Projections

Forecasts utilized in Eugene Boyd's case study also were based on the supposition that the future would be a continuation of the past. His study deals with the National Urban Growth and New Communities Act of the Housing and Urban Development Act.

⁴³ These systems are described more clearly in Novak, Michael. *A New Public Philosophy: Mediating Structures*. A paper prepared for American Enterprise Institute's Public Policy Week, Dec. 7-11, 1981, p. 3-4.

This legislation was a response to the demographic trends (greater urbanization and larger SMSAs) Congress saw in the 1960s and believed likely to continue in the 1970s. The legislation was a statutory based effort to create a national urban growth policy. It required a biennial report and authorized grants, loans, and loan guarantees to encourage the development of planned new towns and to accommodate anticipated metropolitan growth. One of the requirements of the biennial report was that it identify emerging trends.

The demographic forces which appeared to mandate a national urban growth policy began to change in the early 1970s in response to unforeseen societal and economic forces. There was a movement to rural America, small towns, and smaller standard metropolitan statistical areas. As a result Congress amended the legislation in 1977 to eliminate growth from the title, and energy conservation was added as a policy objective. Once again it seemed to be assumed that the trends in existence would continue and, as Boyd notes, the biennial report, which was suppose to identify emerging trends, only identified trends after they clearly had appeared. There appeared to be little institutional willingness to accept two of the changes prescribed by Donald Michael--the acceptance of uncertainty and of error. This raises the question as to whether or not the failure to accept uncertainty or to plan for it leads you into error. Where the future is likely to be different than the past, this may be a very high probability.

Full Employment and Balanced Growth Act of 1978

The final case study in this group of retrospective case studies deals with the Employment Act of 1946 and the Full Employment and Balanced Growth Act of 1978. The Employment Act of 1946 committed the country to very general economic goals which were to be pursued partially on the basis of economic forecasting. The Act created the Council of Economic Advisors (CEA) and required the Council to formulate and recommend a national economic policy to promote employment, production, and purchasing power. The program was to include current and foreseeable trends in the levels of employment, production, and purchasing power. The Full Employment and Balanced Growth Act of 1978 added a more definitive planning and coordination requirements to the 1946 Act. It requires the President to submit in the Economic Report annual numerical goals for employment, production, real income, productivity, and prices for the succeeding five years. In addition, the President's budget is to recommend levels of expenditures and receipts consistent with the first two years economic goals. As Dennis Roth, the author of this case study notes, the actual responses to both Acts have been short term and reactive to the status of the economy at that time. Economic planning has for the most part been short term and crisis oriented. For each of the five Administrations of the 1960s and 1970s, it appears that "the future was now".

E. COMMISSIONS, INSTITUTES, ADVISORY GROUPS, AND GLOBAL STUDIES OF THE FUTURE

In chapter 13 Stephanie Smith notes that advisory groups and commissions have been used to aid in national policy making since George Washington's first term. However, it was not until the twentieth century that Presidents began extensively to use advisory commissions to analyze longer-term public policy issues. Some have been used to gather the necessary information and points of view to catalyze a decision while others have seemingly been established to forestall action or to delay a decision in order to gain time for consensus formation or testing the steadiness of political winds.

In general, advisory bodies or commissions are created by Congress or by Executive order. In theory they provide expert advice to Congress or the Executive in matters of public policy within a definite time frame. They provide an organizational means for circumventing normal bureaucratic channels which may be too caught up in the urgencies of the moment to consider longer-term issues, and this structure allows for functional representation of constituencies in the advisory process. In reality the timing of many commission reports is poor, for their reports are often released after their supporters (presidential or congressional) have left office. Or when the timing is more appropriate, there is the possibility that a commission will report findings on an issue that are contrary to the position of those who created the commission.

In a chapter prepared for the Global 2000 report, Robert and Patricia Cahn reviewed some of the commissions, studies, and task forces of the past 70 years whose experiences might be helpful in understanding what arrangements will and will not lead to quality analysis, decisions, and actions addressed to important long-term issues. Their primary focus is on efforts concerned with population, natural resources, and the environment. Most of these efforts did not consider global potential and problems, and if they did their review was superficial. The Cahns note in their introduction that:

Over the years, government has tended to wait until crises occur and then has reacted to them—rather than study and analyze issues beforehand. On those occasions when groups have addressed problems with an eye to the future, a President—and others who initiate such studies—have seldom sustained the original level of interest, although much valuable data has been developed, alternative choices have been explored, and options have been presented in the form of recommendations. In most cases, suggestions or recommendations have been made for the formulation of an institution to carry on the work of looking at future problems, but none of the recommendations has led to establishing a permanent group. Thus decisionmakers and the public have never had the benefits that would accrue if a long-range study group at a high level of government, free from pressures for immediate results, had been in existence to offer alternatives that might help avert or solve future difficulties.

While suggestions vary as to where to locate such a permanent group, proposals have generally indicated that a legislatively created institute with access to the President could explore potential goals, watch for trends, and look at alternate possibilities for accomplishing stated objectives. The Cahns did not discuss whether or not Congress would have complete access to such information, or what legislative support agency, if any, might play a similar role for Congress.

The Institute for Congress, as originally conceived by Alton Frye, was one possible structure which might have provided Congress with expert, systematic long-term foresight information and analysis. Its organizational framework and Board of Trustees were announced on December 7, 1975, but the Institute never reached the point of beginning operations, and dissolved on December 20, 1977. Since there may be lessons to be learned, when considering the possible need to strengthen the foresight information base of Congress, from the experience of trying to create and make the Institute operational, analyst Richard Beth has provided for this report a chapter on the "History of the Proposal for an Institute for Congress."

In an effort to provide a sense of the foresight information and analysis available on global opportunities and issues, brief selections from Magda McHale's *Ominous Trends and Valid Hopes: A Comparison of Five World Reports* have been reprinted.⁴⁴ The reports include:

North-South: A Program for Survival was published in early 1980 as the report of an independent commission chaired by former West German Chancellor Willy Brandt. The purpose of the commission was "to study the grave global issues arising from the economic and social disparities of the world community and to suggest ways of promoting adequate solutions to the problems involved in development and in attacking absolute poverty."

The Global 2000 Report to the President: Entering the Twenty-First Century was initiated by President Carter in 1977. It is a set of projections of trends in population, resources, and the environment for the entire world, from 1975 to the year 2000. The major assumption of all of the projections is that the present national policies regarding population stabilization, resource conservation, and environmental projection continue without change through the year 2000.

The World Development Report: 1980 is produced annually by the World Bank. The 1980 report addresses itself to the economic policy choices that developing nations face and how these choices will affect their growth from 1980-85 and 1985-1990. The report demonstrates how human development (basic human needs) can be an effective investment, assist growth, and reduce absolute poverty.

Interfutures: Facing the Future; Mastering the Probable; and Managing the Unpredictable was prepared by the Organization for Economic Cooperation and Development and released in 1979. The purpose of the project was "to provide OECD member governments with an assessment of alternative patterns of longer term world economic development in order to clarify their implications for the strategic policy choices open to them in the management of their own economies, in relationships among them, and in their relationships with developing countries." The report emphasizes the importance to policymakers of OECD member governments of adapting to future

⁴⁴ McHale, Magda Cordell. *Ominous Trends and Valid Hopes: A Comparison of Five World Reports*. Hubert H. Humphrey Institute of Public Affairs. University of Minnesota, 1981.

changes of facilitating Third World development, and of understanding global interdependence.

World Conservation Strategy: Living Resource Conservation for Development was released in 1980 by the International Union for Conservation of Nature and Natural Resources with the financial assistance of the United Nations Environment Program and the World Wildlife Fund. It reflects the views of 400 individuals and 50 government agencies on conservation and development priorities.

With reference to these studies, Chairman John Dingell has said:⁴⁵

In very general terms, the studies have found that . . . Many of our most pressing problems are simultaneously global and local, and each level can be as complex and as sophisticated as the other. The decisions we make today create the future we will have tomorrow, and in many instances current decisions will limit the options available to solve tomorrow's problems.

At a time when global economic interdependence is a reality and the actions of one nation will have increasing consequences on the security and political stability of other nations, there is no established institutional capacity in the United States to monitor and examine large-scale problems and long-term trends.

Prudence would dictate that some such capability exist, not as an attempt to plan the future, or as a means to engage in centralized planning, but as a means to anticipate what might happen.

F. FUTURES-ORIENTED ORGANIZATIONS AND BIBLIOGRAPHIC INFORMATION

The last two chapters in this report focus on the identification of the network institutions, people, and futures literature available for identifying strategic trends and issues, analyzing them, and dealing with them. In Chapter 17, analyst Kenneth Bogen provides brief descriptions of a selected number of "think tanks" which are typically involved in futures studies. These are organizations engaged in the study of policy alternatives on topics requiring a long-range perspective and the use of various forecasting and technology assessment analytical techniques. Since Bogen included only a representative sample of these types of organizations any reader requiring a more comprehensive listing should refer to *The Future: A Guide to Information Resources*, 2nd edition, (Washington), World Future Society, 1979.

In Chapter 18 Bonnie Mangan has provided an annotated bibliography of selected futures-oriented literature. The bibliography focuses on process, or how to think about the future, and on selected substantive areas: energy and strategic materials; environment and agriculture; economics and labor; science and technology; and government, law, and society. A General Futures section is included to provide the reader with some holistic pictures of the changes which may occur as a result of the pace, complexity, and interrelatedness of changes in our energy, social, economic, technological, and political systems. The substantive foresight materials listed includes only materials published in 1979, 1980, and 1981.

While most of the items listed were drawn from the Library of Congress' computerized data bases, approximately 40 percent of the

⁴⁵ U.S. House of Representatives. House Energy and Commerce Committee. Hearings on National Strategic Planning. Opening Statement of Chairman John Dingell. Dec. 1, 1981.

material was new and subsequently added to the data bases as a small but meaningful extension of Congress' foresight network.

G. FORESIGHT: PROSPECTUS

The genius of the American people is to invent and improve. The defect of American society is the failure to anticipate and plan.

—WALTER CRONKITE

The research conducted to date on this project indicates that tomorrow is not going to look like yesterday. While the Middletown study and other research⁴⁶ have revealed remarkable continuities in family and other social structures, changes in the economic and resource systems have created a fragility so that the future may be qualitatively and quantitatively different from any stage of the past. A few illustrations from this report and the earlier one illustrate this. The U.S. inflation rate for the whole century, excluding World War II and Depression has averaged only two percent per year. In the 1970s, it averaged 6.8 percent; in 1980 it was 12.4 percent; and in 1981 it was 8.9 percent. Our economy, fueled by an energy system of low-cost liquid fuels, is experiencing a declining discovery rate of large oil and gas reservoirs; and energy prices in the 1970s accelerated to the point that the United States spent \$10 million an hour, \$240 million a day, and \$90 billion in 1980 buying imported oil. This was more than the combined assets at that time of IBM, General Motors, General Electric, and Ford.

The issues identified in the previous report indicated that National problems and opportunities are becoming increasingly complex and tend not to be subject to strictly public or private jurisdiction, for they straddle both. This report reveals that within the United States there is no established institutional capacity to systematically monitor and examine large-scale problems and long-term trends. Committee hearings held in December 1981 revealed that more public attention is being paid to the substantive findings of various forecasts than to the need for a continuous process to gather, analyze, and synthesize information about trends in energy resources, the environment, and international trade and development. In this volume the review of recent global studies, and of the foresight oriented think tanks suggest that foresight information is available mainly in a highly decentralized and insular fashion. Widely shared assumptions regarding energy and long-term economic growth policy alternatives are uncommon. Part of the dispute surrounding various forecasts of growth is the result of a lack of understanding of the assumptions and processes used to produce various sets of forecast information. For example the Global 2000 Report found "serious inconsistencies in the methods and assumptions employed by the various agencies in making their projections."⁴⁷ Forecasts of the United States Department of Agriculture

⁴⁶ Yankelovich, Daniel. *New Rules: Searching for Self-Fulfillment in a World Turned Upside Down*, p. xvii.

⁴⁷ Council on Environmental Quality and the Department of State. *The Global 2000 Report to the President: Entering the Twenty-First Century*, Vol. 1, [Washington, Govt. Print. Off.,] 1980, p. 4.

show water shortages in the plains and mountain States driving irrigated agriculture to the South. At the same time, some Department of Energy forecasts show substantial increases in coal liquefaction (requiring large quantities of water) in the Western Plains and Rocky Mountains.⁴⁸ It would appear that these forecasts are based on different assumptions. Caroline Atkinson writing in the *Washington Post* reports, "Unrealistic assumptions—about what would happen to the economy, to unemployment, to the level of interest rates, and about how much individual spending programs would cost—underlay Reagan's early budget figures, and account for much of the huge discrepancy between the original \$23 billion (deficit April 1981) and the latest (April, 1982) \$182 billion figure."⁴⁹

Congress has made some progress in developing a foresight capability. The passage of the National Environmental Policy Act of 1969; the Legislative Reorganization Act of 1970, the creation of the Office of Technology Assessment in 1972, the Resource Conservation Act of 1977 and the Resources Planning Act of 1974, and the amendments to Rule X of the House (requiring each legislative committee of the House to do future research and forecasting on a continual basis, are notable steps in this direction. However, the overall efforts have been episodic, uneven in character, and far from systematic. A detailed review of the congressional experience in developing a foresight capability will be described in a future volume of this study. It will deal with the history of congressional interest in the future, congressional experiences since passage of the House foresight provision, strategies for implementing foresight at various steps in the legislative process, resources and capabilities of congressional support agencies, and some possible future directions for foresight in Congress. Another volume of this project summarizes the entire project and reports on ways of improving national foresight, and issues identification capabilities, especially through the sharing of information between the public and private sectors. This report will be the result of a May 1982 committee workshop with senior practitioners in the private and public sectors, the not-for-profit sector, and academia who deal with foresight and emerging issues. The workshop dealt with institutional experiences and perspectives regarding foresight information; methods of obtaining, analyzing, synthesizing, and communicating foresight information; and opportunities and obstacles to the sharing of foresight information between the private and public sector. A separate committee staff report suggesting options for appropriate short- and long-term congressional consideration will be made to the chairman of the House Energy and Commerce Committee.

⁴⁸ Personal correspondence from USDA staff to House Energy and Commerce staff, Apr. 20, 1982.

⁴⁹ Atkinson, Caroline. *The Deficit Explosion: What Went Wrong. Wishful Thinking and Surprises in the Economy.* The Washington Post, Apr. 25m 1982, p. G-1.

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CHAPTER 2. THE GROWING CONFLICT BETWEEN CENTRAL CONTROL AND INDIVIDUAL FREEDOM*

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A. SUMMARY PROBLEM STATEMENT

Freedom in a society can be measured by the degree to which the major institutions, especially governmental and economic institutions, are accountable to the people; the degree to which individuals are able by their own choices to direct in a meaningful way the forces that affect their lives; and the strength and extent of civil liberties. For the past two centuries, the trend has been toward great advances in human freedom through adherence to democratic principles, advances in science and technology, and industrialization. Now it appears that these same forces may begin to diminish freedom. When individuals are increasingly dominated by institutions, when their choices are increasingly meaningless or constrained, and when civil liberties tend to be progressively sacrificed (even if circumstances seem to demand it), then that society is tending toward authoritarianism. All three of these trends seem to be increasingly evident in the United States, although the election of President Reagan portends a reversal in at least two of these three trends. This movement toward increasing central control comes about because of three main reasons: the gradual evolution toward a highly urbanized, industrialized society; the pressing need to solve a variety of critical problems and breakdowns; and a loss in the sense of social cohesion. Thus, every gain in freedom seems to be accompanied by an increase in the potential threat to freedom.

A number of facts illuminate this problem. The evolutionary development of the nation since its pre-Industrial-Revolution founding has been so rapid as to change its fundamental character. Since the nation was created, it has grown fourfold in area and fiftyfold in population. In the last half century, the urbanization of America, the pervasive communication systems, and the high mobility of the populace have intensified the sense of crowding. The power of our technologies has grown so enormously that both the intended and unintended effects are massive (technologies for mass control have also grown in power). The organizations, both public and private, with which individuals interact have grown gigantic in scale. The interconnectedness of all nations has intensified such that a

* This paper is an updated revision of a paper presented at a CRS workshop on the Future of Democracy. As at all CRS workshops, a wide range of perspectives was presented by individual spokesmen and consequently the views presented do not necessarily reflect the views of the Congressional Research Service. Updating and editing were done by CRS.

greater range of decisions made here must be considered in light of their effects abroad; likewise, decisions and events made elsewhere constrain choices made at home. As changes occur increasingly rapidly, the time allowed for careful consideration, multiplicity of inputs, and the emergence of consensus is just not possible. As the domain of knowledge has grown, the resulting specialization has narrowed rather than broadened our capacity to respond to the complexity of our problems.

Besides these qualitative changes, a number of serious problems and partial system breakdowns have become evident, particularly in the past two decades. The most apparent is the perceived increase in levels of violence in society as illustrated in Chapter 2 of *The Strategic Future: Anticipating Tomorrow's Crisis*. Even though literacy is now nearly universal, the quality of information required to function has changed so much that functional illiteracy is very common. Our growing industrial and technological capacities have placed strains on the economy and the environment which demand remedy. With income levels no longer rising steadily, relative deprivation is growing as is unemployment.

We seem also to be losing our sense of shared identity; a loss of sense of community or social cohesion. As a result, people lose their sense of status and function, and the traditional centers of power encounter less acceptance as legitimate. The consequence is an erosion of our ability to adapt to the reality of our change of circumstance and to deal effectively with the problems we face.

These evolutionary forces tend to strain or perhaps overburden a two-century-old structure. The benefits of expanding freedoms that we have come to expect from this system seem to be increasingly marginal as one kind of freedom has to be traded off for another. While on the one hand we demand more from our central institutions, we are also losing our faith in their ability to produce quality service. The movement growing out of the success of Proposition 13 in California and Proposition 2-1/2 in Massachusetts may be the tip of the iceberg of a whole pattern of frustration with this direction of political evolution. The net result appears to some to be a reduction in the accountability of institutions, in the efficacy of individual choice, and in the preservation of civil liberties—in short, producing the conditions for a progressively authoritarian society.

B. BACKGROUND AND CONTEXT

It is important from the start to distinguish the problem of loss of freedom from the generalized fear of a strong-man dictatorship. While that may indeed be a possibility, it is far more easily recognized and hence combatted than is the problem being discussed here. The problem is also not "creeping socialism" as seen by conservatives, for a significant part of the problem lies in the private economy. Nor is the problem one of some secret cabal of industrialists and bankers as seen from the left. It is rather a problem of gradual societal evolution and increasingly potent societal malfunctions that brings into direct conflict the apparent need for more central control (at various levels) and the American ideal of individual freedom.

Without apparent design or intent, a number of forces seem to be pushing the nation in the direction of a kind of society somewhat like the one described by Bertram Gross in his article "Friendly Fascism":¹

... a managed society that rules by a faceless and widely dispersed complex of warfare-welfare-industrial-communications-police bureaucracies caught up in developing a new-style empire based on a technocratic ideology, a culture of alienation, multiple scapegoats, and competing control networks. . . . Pluralistic in nature, techno-urban fascism would need no charismatic dictator, no one-party rule, no mass fascist party, no glorification of the state, no dissolution of legislatures, no discontinuation of elections, no distrust of reason.

That this is not a new concern is most clearly seen in Alexis de Toqueville's famous study, *Democracy in America*,² written over a century ago. In his discussion of the potential for despotism, he set forth the essence of the problem to be discussed and therefore a rather long quote is reproduced in its entirety:

I think, then, that the species of oppression by which democratic nations are menaced is unlike anything which ever before existed in the world: our contemporaries will find no prototype of it in their memories. I seek in vain for an expression which will accurately convey the whole of the idea I have formed of it; the old words despotism and tyranny are inappropriate: the thing itself is new, and since I cannot name, I must attempt to define it.

I seek to trace the novel features under which despotism may appear in the world. The first thing that strikes the observation is an innumerable multitude of men, all equal and alike, incessantly endeavoring to procure the petty and paltry pleasures with which they glut their lives. Each of them, living apart, is as a stranger to the fate of all the rest, -his children and his private friends constitute to him the whole of mankind; as for the rest of his fellow-citizens, he is close to them, but he sees them not; he touches them, but he feels them not; he exists but in himself and for himself alone; and if his kindred still remain to him, he may be said at any rate to have lost his country.

Above this race of men stands an immense and tutelary power, which takes upon itself alone to secure their gratifications, and to watch over their fate. That power is absolute, minute, regular, provident, and mild. It would be like the authority of a parent, if, like that authority, its object was to prepare men for manhood; but it seeks, on the contrary, to keep them in perpetual childhood: it is well content that the people should rejoice, provided they think of nothing but rejoicing. For their happiness such a government willingly labors, but it chooses to be the sole agent and the only arbiter of that happiness; it provides for their security, foresees and supplies their necessities, facilitates their pleasures, manages their principal concerns, directs their industry, regulates the descent of property, and subdivides their inheritances: what remains, but to spare them all the care of thinking and all the trouble of living?

Thus, it every day renders the exercise of the free agency of man less useful and less frequent; it circumscribes the will within a narrower range, and gradually robs a man of all the uses of himself. The principle of equality has prepared men for these things: it has predisposed men to endure them, and oftentimes to look on them as benefits.

After having thus successively taken each member of the community in its powerful grasp, and fashioned him at will, the supreme power then extends its arm over the whole community. It covers the surface of society with a network of small complicated rules, minute and uniform, through which the most original minds and the most energetic characters cannot penetrate, to rise above the crowd. The will of man is not shattered, but softened, bent, and guided; men are seldom forced by it to act, but they are constantly restrained from acting; such a power does not destroy, but it prevents existence; it does not tyrannize, but it compresses, enervates, extinguishes, and stupefies a people, till each nation is reduced to be nothing better than a flock of timid and industrious animals, of which the government is the shepherd.

¹ Gross, B. Friendly Fascism, Social Policy (Nov./Dec. 1970).

² De Tocqueville, A. Democracy in America (New American Library, New York, 1956).

I have always thought that servitude of the regular, quiet, and gentle kind which I have just described might be combined more easily than is commonly believed with some of the outward forms of freedom, and that it might even establish itself under the wing of the sovereignty of the people. (pp. 302-304)

A Free Society

Before discussing the forces pushing us in the direction of increasing central control, it will be necessary to define a framework that will permit an assessment of how those forces are at work. In reviewing the literature, one finds many definitions of what constitutes a free society. Out of such a review, three distinct but interrelated parameters have historically combined to characterize a free society.

The first of these parameters is the degree to which the institutions in a society are seen as accountable to the people as opposed to being dominant over them. Lipson³ defines this difference as follows:

If government is thought of as a procedure whereby a small number of persons issue orders to a much larger number who are their subjects and, as such, their inferiors, then authority is supposedly vested in the ruling class by virtue of the superiority they possess and is handed down to the mass of the community from on high. Civil government, so viewed, is likened to military discipline. As soldiers obey their commanding officers, so the people obey the state and are accountable to it. A ruler can no more be held to account by his subjects than a general by his army. The opposite doctrine reverses this relationship. It makes the ruler answerable for his actions instead of the people for theirs. The source of authority is the mass of the community who are to be rewarded as fellow citizens rather than as subjects. It is they who grant power, they who supervise its use, they who may revoke it. Authority is not something which a few impose upon many; it is what many temporarily delegate to a few. (p. 217)

The second characterizing element is the central role of individual choice. A free society is one where an individual can choose among alternatives that have significant differences, where the individual's choice has a significant impact on outcomes, and where the individual *feels* that his choosing will have a meaningful effect. Elliot Richardson⁴ defines this need for meaningful choices in this way:

... every individual seeks a sense of personal identity and worth. Each person gains this partly through the development and exercise of individual capacities, partly through the sense of belonging and sharing that comes from participating in the society of others. In both cases, *freedom to choose is indispensable to the opportunity to become a complete person*. It is also essential to our self-esteem that we feel able to exert some control over the forces that affect our lives. (p. xiii-xiv).

The last critical dimension for a free society is the strength and extent of legally guaranteed civil rights. The original debate over the Bill of Rights was perhaps the most profound aspect of the Constitutional debate. As a general principle, such a basic guarantee is seen as the means by which all other rights are best ensured (i.e., a free press ensures an adequate voice for dissenting views and so on).⁵ However, the legal formula is only an expression of a deeper commitment.⁶

³ Lipson, L. *The Great Issues of Politics* (Prentice-Hall, Inc., Englewood Cliffs, N.J., 1970).

⁴ Richardson, E. *The Creative Balance* (Holt, Rinehart, and Winston, New York, 1976).

⁵ Ogilvy, James. *Many Dimensional Man*.

⁶ Lipson, L. *The Great Issues of Politics*.

there is the problem of determining the ultimate sanction which guarantees that civil rights will be operative. Though it is valuable to have basic rights spelled out in classic formulas and constitutional definitions, those are not self-enforcing. Many a constitution has been drafted to include the finest sounding liberties which in practice were not worth the paper on which they were written. Nor does the secret of the defense of rights lie solely in such institutions as courts and legislatures, indispensable though these be. Again it is necessary to remember that institutions, like rights, will vary in effectiveness, that courts may function under the shadow of intimidation, and legislatures may be maintained as a convenient fiction. The truth is that institutions are strong to the extent that a large enough section of the public feels keenly enough to have them so. Exactly the same applies to civil liberties. If enough people are sufficiently determined to preserve and exercise their rights, those rights will be exercised and preserved, and the institutions will then be found to do the job. But where that determination is lacking, no court, no congress, no parliament can fill the gap. The ultimate sanction, therefore, of all civil liberties resides in the same source that creates the constitution initially and renders it effective—the political will of the people. Freedom in any society is what the people earn and guard for themselves. (p. 282)

Thus, the framework for analysis is the impact of the forces to be discussed on: *degree* of accountability of the major institutions; the *meaningfulness* of individual choices; and the *strength* and *extent* of civil liberties. To the degree that the forces push us from accountability toward domination, from meaningful choices toward increasingly irrelevant and constrained ones, and from guaranteed civil liberties to their absence, then to that extent the nation is moving in an authoritarian direction.

These three parameters have been an adequate definition in the past. However, in contemporary society our condition may be different enough to warrant a reconsideration of that definition. James Ogilvy⁷ has developed an analytic framework which will be useful in setting these historically valid aspects of freedom in a modern context.

People have always developed tools to mediate their relationship to the environment. That environment consists of both natural and human aspects. We have developed technology as the tool to mediate our relationship to nature—to control it for our benefit. Politics is the tool for mediating our relationship to other people as a collectivity. As we have progressed, these tools have developed. Politics has not, for the most part, taken account of the changing nature and context of our political tools.

The Issue of Scale

One of the most basic forces affecting the shape of our society is that many elements of it are very much bigger today than they were when the nation was consciously organized two centuries ago. Plainly, the growth in the scale and scope of activity in society over the last 200 years has offered a great many advantages, and political, social, and economic freedoms which would simply have been impossible otherwise. Yet these benefits of scale have come at a price which we are only beginning to fully realize. David Fromkin in *The Question of Government*⁸ puts it this way: (p. 172)

The cause of the new difficulties encountered by governmental institutions in the twentieth century is the scientific, technical, and industrial revolution that began in Europe ages ago. Its cumulative and compounded force now has burst forth upon

⁷ Ogilvy, James. *Many Dimensional Man*.

⁸ Fromkin, D. *The Question of Government* (Charles Scribner's Sons New York, 1975).

the rest of the world as well. Although several centuries old, its consequences have begun to be fully apparent only in recent years. Its benefits are so great that all the world aspires to a share in them; but, until recently, its harmful side effects generally were ignored. . . . What was not fully grasped was the extent of the transformation of circumstances and relationships that would be wrought by the industrial revolution. It was a change in the *scale* of human activity, and this created a difference in kind rather than a difference in degree. It was the greatest change in human history.

This change in kind has a number of particular dimensions.

The most obvious change in size is simply the growth in area and population. In 1790, the total area of the United States was 888,000 square miles and the population 3.9 million. In 1981, the area was 3,615,000 square miles and the population nearly 230 million. Thus, while the area has increased nearly fivefold the population has increased nearly fiftyfold. In 1790, only 24 cities were over 2,500 in population and only 2 over 25,000. Today's largest urban areas have populations a thousand times greater. The country not only is bigger, it is also more crowded.

A second area of change in scale is technology. Our capacity for altering the human and natural world has become global. Fromkin (7) calls it the "Lilliput effect," for like Gulliver, if a technology "sneezes" or rolls over the wrong way, cities can be destroyed (as in the chemical poisoning in northern Italy, generations of unborn lives changed as at Hiroshima), or psyches of entire populations affected (as by television). The problem as Fromkin puts it is that:⁹

In the machine age, accidents can have fatal consequences. A pedestrian, not looking where he is going, merely bumps into you; the driver of an automobile, not looking where he is going, can kill you. The difference between the present and the past is not that people no longer think about what they are doing, for they never did; the difference is rather that now it matters. (p. 178)

Another area of major growth is in the number and size of organizations with which an individual interacts. In the ten years between 1961 and 1971 alone, the number of national organizations grew from 7,400 to over 11,000. In the thirty years from 1939 to 1969, the number of businesses grew from 1.7 million to over 12 million. The number of people involved in the Department of Defense today is almost as great as the entire population of 1790, and its budget in 1981 is greater than the entire GNP of 1929. Some corporate office towers have a daily population that exceeds the size of many American communities. While on the one hand this means a great increase in the diversity of resources available to the individual, it also means greater confusion of choices and an almost inevitable depersonalization of the interactions with those institutions. Furthermore, organizations of that scale demand a kind of internal uniformity of practice just to be able to function. It appears to be necessary for large centralized organizations to demand uniformity along a number of dimensions, with perhaps consequent increases in efficiency, but diminished individual diversity.

The combination of technology and larger organizations with their increasing scope of operation has increased the interconnectedness of the entire world. Practically, this means that the scale of decisions has grown. A decision in the jungles of Angola can mobi-

⁹ Franklin, D. *The Question of Government*.

lize instant responses around the globe. This tight coupling, while linking the fates of all peoples together, also means that fully responsive decisions must take into account a much wider-ranging set of actors.

A further consequence of this growth in scale is the shrinkage of the time allowed for decisions. At its most extreme, the advent of intercontinental ballistic missiles reduced the war decision from an extended debate in the Congress to a few minutes in the thoughts of one man. The increase in the number of items on the agenda of the decision makers decreases the time available for any one decision.¹⁰ One can only speculate at how many pieces of legislation have been passed, how many administrative decisions have been implemented—how many billions of dollars of private investment have been misspent simply because there was not enough time to reflect on the decision and not on the basis of poor information, bad judgment, ill-will, or any other malfunction.

Large bureaucracies as they grow in size and complexity may be intrinsically unmanageable. Duane Elgin has suggested that large systems go through four stages of growth:¹¹

Stage I, High Growth—As the social bureaucracy becomes established there is a period of high growth, great creativity, entrepreneurial style of decision making, many informal and diverse communications channels, and so on.

Stage II, Greatest Efficiency—As the bureaucracy grows larger and becomes more complex, a need arises for more formalized coordination and control processes, leadership tends to become more directive than creative, centralization of decision making increases, the range of administrative decisions is likely to become narrower and more routine and so on.

Stage III, Diseconomies of Scale—As the bureaucracy grows extremely large, perhaps with great speed, the overall performance of the system declines. The bureaucracy becomes more incomprehensible to any given individual, increasingly rigid and cumbersome as formalized procedures are used in an attempt to coordinate the increasing number of interrelated decisions, and increasingly difficult to manage comprehensively.

State IV, Systems Crisis—The problems of Stage III are magnified to intolerable proportions. A ratchet effect is described that seems to strongly inhibit the retreat of social bureaucracies from these overwhelming levels of complexity and scale. Tension between the need for fundamental systems change and the impediments to that change grows until the system reaches the breaking point. At that juncture, at least four outcomes seem plausible:

- Successful muddling through.
- Descent into bureaucratic chaos.
- Benign but authoritarian rigidification of bureaucracy.
- Transformational change or fundamental restructuring of the social system(s).

Table 1 shows the problems which result from that growth pattern. It is not possible to determine precisely where in that cycle various of our governmental institutions are, but it may be possible that some of them such as the Department of Health and Human Services or Department of Energy have reached Stage IV and have become unmanageably complex and huge. They may be beyond even gifted managers, or good will.¹²

¹⁰ Ibid.

¹¹ Elgin, Duane S. Limits to the Management of Large, Complex Systems, v. II of report for Contract NSF/STP76-02573, SRI Project 4676, SRI International, Menlo Park, Calif. (Feb. 1977).

¹² Franklin, D. The Question of Government.

TABLE 1 SUMMARY OF PROBLEM PROPOSITIONS

It is hypothesized that if a social system grows to extreme levels of scale, complexity, and interdependence, the following characteristics will *tend* to become manifest:

1. Diminishing relative capacity of a given individual to comprehend the overall system;
2. Diminishing level of public participation in decisionmaking;
3. Declining public access to decisionmakers;
4. Growing participation of experts in decisionmaking;
5. Disproportionate growth in costs of coordination and control;
6. Increasingly rationalized interactions between people and the system;
7. Increasing levels of alienation;
8. Increasing challenges to basic value premises;
9. Increasing levels of unexpected and counterexpected consequences of policy action;
10. Declining system's resilience;
11. Increasing system's rigidity;
12. Increasing number and uncertainty of disturbing events;
13. Narrowing span of diversity of innovation;
14. Declining legitimacy of leadership;
15. Increasing system's vulnerability;
16. Declining overall performance of the system; and
17. Growing deterioration of the overall system unlikely to be perceived by most participants in that system.

A very different though equally powerful form of growth is the expansion in information needed for full participation in society's affairs. This growth is both quantitative and qualitative. Just to get along in society one needs greater amounts of information of an increasingly sophisticated sort. Even though we may be approaching 100 percent literacy, a new form of functional illiteracy is probably growing. Various surveys indicate that more than 20 percent of the adult population either does not have or is unable to use the information necessary to carry out what have become basic tasks, such as balancing a checkbook or applying for insurance. Nathan Katzman¹³ suggests that new communications techniques and technologies in fact widen the gap between those who are information rich and those who are information poor. As with money, being information rich allows more rapid accumulation of new information as well as greater skill in its use than if one is in the position of trying to catch up.

Thus, operating in a political and economic system whose form was set two hundred years ago, we have a society that:

- Is much larger in area and very much bigger in population.
- Uses enormously potent technologies.
- Is composed of more and bigger organizations.
- Is closely coupled internally and externally.
- Must make profound decisions rapidly.
- Requires a more sophisticated populace.

¹³ Katzman, N. The Impact of Communications Technology (Ekistics, Aug. 1974).

The Issue of Societal Malfunction

Along with growth in scale, an expanding array of stubborn and intricately interconnected social problems has evolved. Among these problems are the rising amount of violence and crime, environmental pollution and resource depletion, energy shortages, the revolution of rising entitlements, health care problems, and urban decay—each demanding solution. They seem not to be separate, isolated problems, but have subtle links with one another; yet we still have no means for assessing their collective impact.

Here too, it appears that ironically our political and technological systems have been too successful at providing us with freedom. The complex of competing freedoms (e.g., clean air versus an unfettered economy) makes exercising those freedoms with wisdom and responsibility very difficult. Our main response to this dilemma so far has been to delegate responsibility to social institutions which ultimately means that our individual freedom is being relinquished. Indeed, it appears as though we may have reached a point where additional freedom causes additional problems to the extent that trade-offs of one freedom for another must be made with growing frequency. Our capacity to generate freedom may have outgrown our capacity to exercise it in a balanced and integrated fashion. The result is manifested in a host of societal problems.

The growing threat of violence both actual and perceived is perhaps the most potent of these problems. Despite statistical questions about the actual level of crime, there is little doubt that certain aspects are growing at a phenomenal rate. The violent crime rate almost tripled between 1960 and 1977. Acts of terrorism are also growing rapidly. For example, bombings grew from almost none a decade ago to over 200 in 1975, causing \$27 million in damage.

In the financially overburdened older cities now being forced to cut back on services, including police, the problem can only get worse. Even a mild economic downturn in the next few years, building on the current level of unemployment—which will persist even in the most optimistic of scenarios—will yield even more staggering effects on those most likely to become criminals.

Environmental pollution and resource depletion represents another problem area pressing for centralized responses. Very few environmental impacts are purely localized in their consequences. The incident in Hopewell, Virginia, in which the pesticide Kepone reached the James River and then most of the Eastern Seaboard is an example as is, to a lesser extent, Love Canal.¹⁴ Kaufer and Phillips put the dilemma very well:¹⁵

The myth of unrestricted individual choice as the guarantee of freedom for all breaks down as the human ecology increases in size and complexity. The farmer, who in the past was the bastion of individualism in his self-sufficiency and freedom of choice, now depends not only on price supports and productivity quotas but must also be restricted in his use of the products of scientific discoveries, such as DDT, in order to prevent biological damage to all animal life and ultimate loss of his own productivity from chemically-resistant insects. The government's headaches in managing farm subsidies and food prices illustrate very well the general difficulties in comprehending and controlling ecological systems. In general, policy planning and

¹⁴ McGee, R. A. Taking Factual Aim at the Crime Myths (Trial, Mar. 1976).

¹⁵ Kaufer and Phillips (unpublished document).

decisions for change have to take into account many interrelated variables. Schiller asserts that we must curb those random individual choices that have far-reaching social consequences because these choices can produce restraints on others which ultimately far exceed the restraints of coercive social regulations. Society's failure to regulate behaviors that affect others can destroy the hope for individual fulfillment implicit in current material and technological progress. According to many ecologists . . . in order to meet the crisis in our biological-physical environment a whole new order of thinking, and different order of 'mutually agreed upon coercion' is required. Thus, the concept of 'freedom' appropriate to our pioneer era, when the population was small and the unexploited resources seemingly limitless, is not tenable when use of individual freedoms can combine to threaten the welfare or very survival of the social group, as in water pollution or land utilization.

Not only must the nation be safe and clean; many, if not most, citizens look to a strong central government to provide affluence and security in fair measure for all. At the turn of the century all governments combined—federal, state, and local—spent less than a billion dollars on social welfare. In 1978 the total exceeded \$390 billion. As a percentage of national income, the amount was 19.3% in 1978. Daniel Bell has called this change the "revolution of rising entitlements":¹⁶

. . . the direction of events is clear: the government has made a commitment, not only to create a substantial welfare state, but to redress all economic and social inequalities as well. And the commitment is largely irreversible.¹⁷

These entitlements have become a new form of property and a highly controversial part of FY82 and FY83 budget battles. Over a decade ago, Charles A. Reich asserted the argument in a Yale Law Journal article:¹⁸ (p. 308)

These benefits are based upon a recognition that misfortune and deprivation are often caused by forces far beyond the control of the individual, such as technological change, variations in demand for goods, depressions, or wars. The aim of these benefits is to preserve the self-sufficiency of the individual, to rehabilitate him where necessary, and to allow him to be a valuable member of a family and a community; in theory they represent part of the individual's rightful share in the commonwealth. Only by making such benefits into rights can the welfare state achieve its goal of providing a secure minimum basis for individual well-being and dignity in a society where each man cannot be wholly the master of his own destiny.

Despite growing demands upon government, the public's expectations of effectiveness of government has declined sharply:¹⁹

Since 1958, the Center for Political Studies at the University of Michigan has been measuring the public's attitudes toward Government. One of the questions that has consistently been asked is how much the respondent thinks Government wastes the money the public pays in taxes. Between 1958 and 1976, the percentage responding "a lot" went from 45.1% to 76.4%, with the largest single increase occurring between 1964 and 1968 (from 48.1% to 60.6%). (p. 6)

The combined forces of increasing and conflicting demands, the loss of faith, and growing complexity and scale all form the backdrop for the exercise of political power. In such a political environment power needs to be carefully examined. James Ogilvy defines power as the ability to realize intention: to get what you want accomplished. Ogilvy provides a useful metaphor for power:²⁰

¹⁶ Bell, D. The Revolution of Rising Entitlements, (Fortune, Apr. 1975).

¹⁷ The Strategic Future, p. 14.

¹⁸ Reich, C. A. The New Property (Yale Law Journal, 1964).

¹⁹ Crocker, Royce. Proposition 13: Public Opinion, Issue Brief Number IB78070, The Library of Congress, Congressional Research Service, Washington, D.C. (July 20, 1978).

²⁰ Ogilvy, James. Many Dimensional Man.

The model for the positive power of the entrepreneur, the model that informs our use of the term "power" in political contexts, is something like that of an organist at a keyboard with tracker action. Reading from the notes on the score of his intentions he pushes the appropriate keys thereby setting in motion a series of direct mechanical pushes and pulls whose final effect is to release the force of proletarian bellows in precisely the right pipes at the right instants. Assuming those pipes have been tuned correctly and that all is in order in the elaborate mechanics of the keys, pedals, levers and pulleys that make up the bureaucracy of the State, the intentions of the single-voiced Kapellmeister will issue in a rich polyphony sufficient to delight all those humble folk who have taken part in the ceremony. (p. 29-30)

He then goes on to suggest that the complex of forces already noted acts to constrain and reconnect the keys so that rather than harmony cacophony results. The President may produce a great deal of impact by an executive decision, but whether the results bear any resemblance on intentions is often doubtful.

The Issue of Loss of Cohesion

The scale of our nation has been growing for two hundred years, and we have had very severe malfunctions in the past without becoming authoritarian. By themselves, therefore, these two forces would not be enough to explain the recent drift toward authoritarianism. However, a third force acting in combination with the first two adds a new dimension. This force is the weakening of the individual's sense of community and social cohesion. Community and social cohesion serve a dual purpose, as postulated by Peter Drucker in 1942:²¹

No society can function as a society unless it gives the individual member social status and function, and unless the decisive social power is legitimate power. The former establishes the basic frame of social life: the purpose and meaning of society. The latter shapes the space within the frame: it makes society concrete and creates its institutions. If the individual is not given social status and function, there can be no society but only a mass of social atoms flying through space without aim or purpose. And unless power is legitimate there can be no social fabric; there is only a social vacuum held together by mere slavery or inertia.

From a sense of community, an individual is affirmed in his own sense of worth. From social cohesion comes the sense of shared purpose which legitimates institutions. The centrality of community was again set forth by Richard Goodwin in *The American Condition*:²²

Community is the form of social existence, the elemental unit through which the individual can express and create the social existence which is essential to freedom. It is the institutional embodiment of shared human purpose, the reconciliation between individual desires and the general well-being. (p. 81)

But what is happening to communities? Elliott Richardson, with great poignancy, describes the erosion of community:²³

Communities are disappearing. Swallowed up by urbanization, flattened out by uniformity, overwhelmed by complexity, diminished by distant bureaucracy, and exhausted by the mobility of their inhabitants, America's human settlements are turning into clusters of isolated cells. Within these cells the frustration of community breeds alienation. Lacking in emotional attachment to a society which is indifferent to him, the rootless individual is trapped in a narrow world of ego-centered desires and gratifications. Ceasing to believe in the reality of other people, he can cheat them, steal from them, and hurt them with no fellow-feeling for their loss or pain. At its most extreme stage, the combination of isolation and alienation pro-

²¹ Drucker, P. F. *The Future of Industrial Man* (New American Library, New York, 1970).

²² Goodwin, R. *The American Condition* (Garden City, New York, 1974).

²³ Richardson, E. *The Creative Balance*.

duces an antisocial predator to whom other people exist only for purposes of exploitation.

The consequences of this loss of social cohesion is the undermining of the efficacy and legitimacy of society's basic institutions. In his conclusion, David Fromkin asserts:²⁴

The full significance of the deterioration of social cohesion only becomes apparent in the light of an understanding that the purpose of government is to enable human beings to function as a group. It then can be seen that a process disruptive of the group entity is a direct negation of the governmental process; it is as death is to life. If the process of negation proves to be of sufficient force, then the institution of government is not merely weakened; it is destroyed. The socially corrosive tendencies of modern life therefore represent more than a challenge to the discharge of certain specific responsibilities by governmental institutions. They represent a challenge to everything that governments do, because they endanger the functional existence of governmental institutions and processes for all effective purposes.

That we have a wide array of problems is evident; what should be done about them and by whom is less clear. The most common call is for more government action. George Cabot Lodge²⁵ suggests that a change is under way from what he calls the "Lockean Traditional U.S. Ideology," which emphasizes individualism (equality-contract), property rights, competition-consumer desires, the limited state, and scientific specialization to what he calls the "New American Ideology," which is based on communitarianism (adapting to inequality-consensus), rights of membership (e.g., survival, income, health), community need, state as planner and coordinator, and holism. Lodge did a multinational poll of businessmen with respect to the two contrasting ideologies. What is of interest is that among American businessmen the traditional ideology was overwhelmingly preferred to the new. At the same time, however, there was general agreement that the new ideology not only is likely to become dominant, but also is better equipped to deal with current and future realities. David Fromkin also reaches the same conclusion:²⁶

In a world of finite resources and of expanding demand for them, somebody must plan to deal with the pressures, dislocations, shortages, and inflations that result. Somebody must ease the transitions to make them smooth. In a world that heedlessly disrupts the balance of natural systems, somebody must arrange to close the circle once again; or else, somebody must replace the systems with others. In a world that races so quickly toward the future and is so vulnerable to destruction, somebody should look ahead and take control of the steering wheel . . . freedom can only flourish in the context of directions and limitations such as these that prevent physical disaster. The governments of the world, therefore, must expand their scope.

Thus, we find ourselves in a very curious dilemma. On the one hand, because of the loss of cohesion, we no longer have faith in the more informal processes of our communities to meet our needs and therefore turn to the more formal institutions of government to meet them. That same loss, however, also erodes the legitimacy of the very institutions we are now calling upon, making them ineffective in meeting those needs. This dilemma is the source of the curious anomaly that permits a farmer to decry the right to regulate pesticides, while demanding price supports; that allows a businessman to complain that the government is on his back while de-

²⁴ Fromkin, D. *The Question of Government*.

²⁵ Lodge, G. C. *The New American Ideology* (Alfred A. Knopf, New York, 1975).

²⁶ Fromkin, D. *The Question of Government*.

manding an investment tax credit; that allows a young radical to demand increases in welfare while resisting that draft. Every branch of the Federal Government has suffered significant losses of public trust. A 1980 poll showed that post-Watergate alienation had subsided somewhat, but 59% of the people still felt that "what I think doesn't count very much anymore."²⁷ Revelations of abuses in the intelligence agencies and a growing perception of ineffectiveness add to that. In the late 1970s scandals in Medicare, in which some doctors were seen as "ripping off" the benefit system, attacked one of the last bastions of institutional trust.

Scandals concerning the medical profession point to an especially significant problem in that most major problems require a high degree of professional expertise for their solution. However, not only are the professionals less trusted, but their very specialization becomes an erosive force, as noted by Schitovsky:²⁸

Increased specialization of knowledge tends to turn professional people from intellectuals into technicians. This means that as each of them gets to know more and more about less and less, he becomes not only more of an authority in his own field but also more willing to accept the authority of others on matters outside his own field. In other words, specialization renders the professional classes not only a better tool of authority but also a more pliable one, and makes them abdicate to an increasing extent their traditional role of upholders of political liberties. (p. 42)

What we face is a complex of serious problems, each of which demands a remedy. Among other problems not mentioned are energy, health, and urban decay. The central institutions, both public and private, are seen as the only locus of power sufficient to cope with the problems, and it is in them that most hopes center. Nevertheless, even as the need for their help in problem solving grows, their legitimacy seems to be diminishing.

The Scientific and Technological Dimension

While democracy has brought unprecedented political freedoms, science and technology, developing in this less constrained environment, have afforded mankind with unparalleled advances in freedom from the often brutal forces of nature. Yet, even as these freedoms are won, new threats to freedom may be emerging. When new technologies are created to solve old problems, new problems may arise from the technologies themselves. The problems of a potential plutonium economy exemplify the kinds of threats to freedom that our society is facing from technological change. The universally acknowledged dangers of plutonium will require a significant regulatory structure to guide the flows of this deadly substance throughout our society. The technological systems intended to isolate plutonium from the environment and the people who run them will have to operate without error, demanding a high degree of rationalization of human behavior. If the protocols of plutonium are deliberately violated, we may face the necessity of abrogating civil rights to prevent potential catastrophe.

Technologies of ever-increasing power, scale, and complexity are placing new kinds of demands on the institutions of a free society.

²⁷ ABC News-Harris Survey, Dec. 11, 1980, v. II, No. 155.

²⁸ Schitovsky, T. What Price Economic Growth, in E. Phillips (ed.), *The Goal of Economic Growth* (N. W. Norton and Co., N.Y., 1969).

Computers are indispensable to modern society, yet they can be used to maintain questionable information files on private citizens. We may develop new weapons to use against our perceived enemies, only to have the weapons adapted by terrorists and criminals to use against us. Biological research may promise longer and healthier lives for all, yet the dangers inherent in such results as manufactured pathogens may require stringent controls over such research (this trend is already evident). These issues, however, do not occur in isolation and hence should be seen in a larger context.

C. ANALYSIS

The framework for this analysis, as set forth in the background section of this paper, considers the problem of authoritarianism from the standpoint of accountability, meaningfulness of choices, and civil liberties. Let us now examine how both evolutionary and problematic forces are having an impact on that framework.

Accountability

With respect to the tension between domination and accountability, a number of the forces tend to reduce the accountability and with that loss is concomitant reduction is legitimacy.

"One man, one vote," becomes a hollow slogan in an era of nearly one hundred million voters. Ignorance becomes rational, as suggested by Anthony Downs:²⁹

Therefore, we reach the startling conclusion that it is irrational for most citizens to acquire political information for purposes of voting. As long as each person considers the behavior of others as a given, it is simply not worthwhile for him to acquire information so as to vote "correctly" himself. The probability that his vote will determine which party governs is so low that even a trivial cost of procuring information outweighs its return. Hence, ignorance of politics is not a result of unpatriotic apathy; rather it is a highly rational response to the facts of political life in a large democracy. (p. 147)

The real-world implications of this apparent inability and unwillingness to participate actively in large-scale democratic processes is reflected in the inferences that were drawn from a Gallup Youth Survey taken in spring 1981:³⁰

Asked five questions about the government, almost half (45%) the teenagers in our sample drew a perfect blank, getting none of the questions right. And merely 3 percent got a perfect score. . . . Teens were most knowledgeable about the three branches of the federal government. . . with 38% able to name all three branches. Slightly fewer, 32%, knew there are 100 U.S. senators. . . 25% could name the U.S. representative from his congressional district, but only 19% knew the names of the two U.S. senators from their states. . . . When asked the total number of representatives in Congress, 15% (were) able to cite the correct figure of 435.

The individual is awed in the face of the giant institutions he must deal with. Who other than Japan would challenge General Motors or the Social Security Administration? By default if not by intent, the major institutions become more dominant simply by their size. It is not out of corrupt motives, but out of belief in presumed expertise that the representatives of a giant organization

²⁹ Downs, A. An Economic Theory of Political Action in a Democracy (Journal of Political Economy, Apr. 1957)

³⁰ The Plain Dealer, Sunday, June 7, 1981, p. 15-c.

have greater sway and access to government than do the mayors of small towns or owners of small businesses.

Our central institutions are becoming more dominant because we need them more. We need them to solve problems. We need them to manage the great process of a giant nation and economic system. We need a giant defense apparatus because our adversaries are equally giant. Our needs are on a massive scale which is reflected in our organizations.

In the private sector, giant corporations are able to buy small ones, further concentrating their dominance. Their very power allows them to accumulate still more power. Even though it is usually to the material advantage of the owner of the small business to sell out to the larger, the result is to increase the dominance of the latter. At the level of the small business, it is probably true that the market economy still functions as a democratic means for distribution and economic guidance. However, at the level of giant industry, the combination of enormous advertising budgets and a shared set of interests rather than competing ones make them dominant and relatively unaccountable to the individual in the marketplace.

The central governments, both federal and state, are able through their legal and especially their financial power to dominate local interests. The motives for central government intervention are usually good ones, yet the consequences serve to increase their dominance and reduce accountability. The problems that are being addressed by those central institutions (e.g. crime and the environment) will not be resolved without help. Yet a consequence of trying to solve them in the way that we now do is to increase their dominance.

Meaningfulness of Choices

The second element of the framework is the meaningfulness of choices and the constraints placed on them. In a society which has come to be called a mass society, the meaning of individual choices becomes trivialized. So many of the day-to-day elements of life are controlled by the need to respond to a "mass." Television, our dominant communication forum, is a mass medium. Our products are tailored for a mass market. Our politicians respond to a statistical sample of a polling population. The uniformity of such a mass society, as Lipson suggests, can become a vehicle for authoritarian expression.

The choices of individuals are also more constrained. Again, for laudable reasons, we have erected a framework of regulations largely to respond to problems caused by the excesses of individuals (e.g., pollution, crime). The consequence of that, however, is to constrain the choices of all people. E.J. Mishan in an article in *Encounter* suggests the nature of that constraint.³¹

... there is indeed a direct relation between economic growth and, more specifically, technological growth—the latter being the chief component and characteristic feature of modern economic growth—and the secular growth of government activity, I shall argue, in particular, that the concomitant decline in personal freedom is not only a corollary of this reduction in the private sector of the economy. It is the

³¹ Mishan, E. J. *On the Road to Repression and Control* (*Encounter*, July 1976).

result also of conscious surrenders of personal rights and freedoms, this being the unavoidable reaction of society to the consequences of particular kinds of technology.

Individual choices are also diminished by the evolution of a new elite. When the country was founded, the franchise was vested in property holders, as the ones fit to govern. Over the last two centuries, our egalitarian motives have eliminated those constraints. However, a new set of constraints is emerging. As a consequence of the problems we face, we give over authority to the "best and the brightest." Lipson describes this kind of authority:³²

The three methods [of authoritarianism] just described have this in common. They justify the authority of those in power by reference to some external criterion—be it God, grandparents, or guns. But if these methods fail, or are not employed, another way is possible.

This is to argue that the authority of the few over the many derives from some quality of excellence in the former which makes them inherently superior. . . . They have been variously identified as the oldest, wisest, wealthiest, and so on. If sufficient people accept the view that fitness to govern is associated with one of these attributes, then those who have mustered enough years or knowledge or property owe their authority to this fact. In short, once the premises are conceded, the conclusion resolves itself into a tautologous statement: The best know best how to govern. How, therefore, can their inferiors hold them accountable? (p. 240)

How they actually use that authority is well documented in many places. Consider for example Everett Reimer's description:³³

The most significant progress, however, toward the formation of a world elite is...the growth of a class of experts advising the power elites of all nations and business institutions—experts who think in the same ways, are trained in the same disciplines, depend upon the same sources and methods of processing information, and who, above all, share many of the same values. These experts include military and police specialists, physical scientists, economists and other social scientists, public relations specialists, and computer experts. The specialists from each field tend to give very similar advice to their policy-making principals, regardless of nationality. In certain cases the interests of these experts may appear to be divisive, that is, to favor national competition rather than the cooperation conducive to the formation of a world elite. Even where the nature of the expertise might seem to favor conflict, however, as in the case of the military, there are powerful countervailing considerations. Modern weapons have become so destructive that even military experts cannot recommend their use except in severely limited, carefully safeguarded forms. There is, furthermore, no real threat even to the military role in a world state dominated by an elite. In such a state the military and the police powers would merge as is already beginning to happen in the larger nations of today.

This merger, in turn, is only one example of the many common interests developing among various kinds of experts. The unholy alliance of business, science, and the military of which the late president Eisenhower warned the American people—is unique only in having been so widely publicized. The symphony resulting from the orchestration of modern power on a large scale has not only been discovered by the various kinds of experts; the discovery has given rise to whole new classes of experts whose task is to write the scores, train the various sections and help conduct the major performances. The successful generals, physicists, and economists of the day are those who understand the roles of their counterparts and know how to dovetail their own efforts with those of others in the administration of political and economic power.

³² Ogilvy, James. *Many Dimensional Man*.

³³ Reimer, E. *Alternative Futures for the World* (unpublished manuscript, 1973).

Civil Liberties

The final element of the framework is the question of civil liberties. The most evident threat is in the area of crime control. The criminal justice system, because of its overburden, is probably short-changing due process. New police technology makes new forms of intrusion possible. Perhaps the best example was that even after the Defense Intelligence Agency had been ordered to destroy its records on dissenters, no one could be sure that duplicate tapes had not been made. Gun control, whether one agrees with it or not, persists as a civil liberties issue. Even the right to die is becoming such an issue.

New forms of religious activity raise questions of civil liberties. The decay of urban education and the resultant increasing burden on private--especially religious--schools, raises questions of separation of church and state. Technology in the hands of the criminal poses new threats. The skyjacker has imposed on all air travelers the requirement for "voluntary" warrantless search. Perhaps the most extreme example is presented by Russell W. Ayres in "Civil Liberties in a Plutonium Economy":³⁴

Suppose the Washington, D.C. police have in their custody a member of a terrorist organization which has announced that it has constructed a nuclear bomb using stolen plutonium and hidden it somewhere in the city. The bomb is set to go off in six hours; the terrorist knows where it is but won't tell the police. Should the police torture the suspect in order to get him to tell where the bomb is hidden?

Ordinarily the suggestion that the police might torture a suspect would be greeted by cries of outrage. But nuclear terrorism is not ordinary. I think that even the most ardent civil libertarian would concede that, in a situation in which tens of thousands of lives were in immediate danger, the police would have to be given a free hand to do whatever they thought necessary to avoid the disaster. Restrictions on police behavior that we normally take for granted would be socially irresponsible in the face of a nuclear terrorist threat.

Is freedom of the press meaningful in an era of national television networks? The balancing role of dissenting media may be modified when the airwaves are licensed, the capital required to broadcast is enormous, and the networks rely on major advertisers for income.

D. IMPACTS

Because we have become a great and a giant nation and because our problems seem so huge, pervasive and interconnected, the only avenues open to us seem to be a growing centralization of authority and decision. The result of that, however, is to reduce accountability, diminish choices and constrain civil rights. Montesquieu, writing over 300 years ago, expressed the dilemma this way:³⁵

It is in the nature of a republic that it should have a small territory; without that, it could scarcely exist. In a large republic, there are large fortunes, and consequently little moderation of spirit; there are trusts too great to be placed in the hands of any single citizen; interests become particularized; a man begins to feel that he can be happy, great, and glorious without his country; and then, that he can become great upon the ruins of his country.

³⁴ Ayres, R. W. *Civil Liberties in A Plutonium Economy*, delivered before Critical Mass '75, Washington, D.C., Nov. 16, 1975.

³⁵ Montesquieu, *Spirit of the Laws* (Hafner Classics, New York, 1949).

In a large republic, the common good is sacrificed to a thousand considerations; it is subordinated to various exceptions; it depends on accidents. In a small republic, the public good is more strongly felt, better known, and closer to each citizen; abuses are less extensive, and consequently less protected.

The American people are expressing their reaction to this dilemma in a variety of ways. Voting participation is shrinking, even as it should be growing with a rising and aging population. Complaints about excess regulation and a burdensome bureaucracy seem universal. There seems to be little consensus on national goals, even short-range ones. The efforts to deal with problems encounter resistance from every quarter. No significant actions can be taken without encountering a suit by someone aggrieved. People feel that the only way they will be heard is by participation in an interest group that can express only its own narrow sense of self-interest (of course, no one is only a consumer or an environmentalist or a businessman). People seem fatalistic about our capacity to respond. Many are alienated and some are even leaving.

What impact do these developments have on our primary tools for dealing with our environment? Ogilvy suggests that our tools have become disobedient, they are no longer under our control. As such they have become a part of our environment. In place of spears to ward off saber-toothed tigers, our task is to find a mechanic who can fix a Buick Le Sabre. In place of a struggle for territory we want a decent tax accountant to win our rewards from the IRS. Thus, according to Ogilvy, for modern man politics and technology are the alien environment. Even "natural food" comes in a plastic container.

Ogilvy's outlook is not altogether pessimistic. If we have lost our traditional political tools to the complexities of a nearly incomprehensible system, what alternatives exist? Ogilvy suggests "para-politics," drawing on the concept of the para-professional in medicine and law. The prefix "para" connotes both "beside" and "against". The medical or legal specialist often is so far removed from practice-serving patients and clients, that a paralegal or para-medic is required as an intermediary. Perhaps, the tax revolt is not merely a reaction against high taxes. Taxes have never been popular. Why the sudden outburst? The wave may be a para-political act demanding responsiveness from all centralized government, despite its immediate target of local government. This phenomenon may represent a frustration with the entire system of political representation and bureaucracy, stepping out to the unusual forms of initiative, constitutional amendments, and even serious calls for a Constitutional convention. The overwhelming majorities in actual votes and polls, cutting across demographic, ideological and socio-economic groups, suggest the growing strength of this para-political phenomenon. Perhaps people are trying to get their "tools" under control again.

E. FUTURE ASPECTS

There is little reason to believe in abatement of the trends that seem to be driving this conflict between authoritarianism and individual freedom. Currently, for example, approximately 1000 new chemicals, many of which are potentially dangerous and require regulation, are introduced every year. The future solutions to our

energy needs may require enormous investments in technologies requiring careful control. Despite fairly constant crime rates during the 1970s, the perceived crime rate continues to climb.³⁶ Structural unemployment is growing and may generate more violence in the future. Though population has steadily increased for the last one hundred years, the most recent census seems to indicate a slowing of this trend. The communication and information explosion is certain to continue in the foreseeable future. This trend, combined with increasing organizational size, adds to the number of decisions to be made in the same amount of time. Increasing mobility will contribute to the future breakdown of the family structure.

Furthermore, the demand for effective responses will likely be increased by what Daniel Bell called "the revolution of rising entitlements."³⁷ People seem to increasingly expect more equitable outcomes as well as more equal opportunity. The loss of cohesion puts ever greater focus on the needs that the individual demands from the society of which he is a part.

Proposed Responses

To be completely fair, one would have to acknowledge that there have been few useful suggestions for responses. The most consistent theme is the call for decentralization. It is, for example, at the heart of Elliot Richardson's suggested response in *The Creative Balance*. The ineffectiveness of the 1970's "New Federalism" suggests that decentralization has been far easier to propose than to accomplish. In one sense, at a global level, the last quarter century has been a time of very rapid decentralization. At the end of World War II, there were some 50 nations in the world; today there are over 170. Certainly a sense of autonomy has been fostered by the break up of colonial empires. Whatever else has been accomplished by it is difficult to assess. Part of the associated problem is the same as the one which has fostered centralization in the United States. It is the problem of local inequities. Only the central authority has, for example, the power to deal with segregation in the South, or a disaster affecting only one area (e.g., a flood). Such inequities will continue to be a force for centralization. That is not to say that decentralization is not desirable or possible, just difficult to accomplish.

Another area for resolution is in the area of social cohesion. A society whose individuals and organizations behave in a responsible way demands less of a direct response from an external authority to produce such behavior. Hence, education in civic or social responsibility could be made a more meaningful part of our educational process. What passes for that activity in most school systems is to say the least ineffective—as anyone who has ever been through it knows. Steps in that direction have been initiated by the National Institute of Education. Moreover, such a program could be extended far more broadly into the nonschool population. Of course,

³⁶ Bureau of the Census vs. Dept. of Commerce Social Indicators III, U.S. Govt. Print. Off., 1980, p. 208.

³⁷ Op. Cit.

one needs to be careful in such a suggestion as it is not too far from such education to propaganda.

In the other direction, enhancing the power of individuals to resist coercion is another kind of response. George Miller,³⁸ in his assessment of psychotechnology, quotes Perry London:

In order to defend individual freedom, it is necessary to enhance the power of individuals. If behavior technology endangers freedom by giving refined power to controllers, then the antidote which promotes freedom is to give more refined power over their own behavior to those who are endangered. Since everyone is endangered, this means facilitating self-control in everyone. And self-control does not mean simply the ability to inhibit impulses, but the general mastery of one's own behavior.

A fourth direction for resolution has to do with the shape of the organizations within which we operate. William J. Crockett³⁹ suggests that because of the hierarchical nature of our institutions, they may reinforce authoritarian rather than democratic values.

The first reality is that our institutions are organized along hierarchical lines. This kind of organizational structure is not only historical and traditional, but it has also become almost symbolic of, and synonymous with, our concept of the democratic free enterprise system. In fact, we not only believe that it is the best way of organizing ourselves for action, but we also believe that it is virtually the only way that will produce results. . . . Our hierarchical concept of organization may not be in harmony with the basic values of democracy, that is, personal freedom, human dignity, equality, and self-actualization. . . . There simply is not a realistic compatibility of spirit between the basic hierarchical and democratic values, and it may be that the hierarchical arrangement of jobs is more in keeping within the value system of absolutism than it is with the values of democracy. . . . The value system that naturally flows from a hierarchy is one of authority, status, power, control, and discipline. . . . In the hierarchical organization, the need fulfillment process flows upward; the needs of the people above must be taken care of first. This is in the reverse of what the order should be.

Crockett⁴⁰ also suggests a number of remedies for that process in the ways that those organizations are run. For example, he points out that instead of canonizing the romantic image of a decisive leader, we ought to develop collaborative multiple leadership. Similarly, we ought to develop followership skills in the same way that we develop leadership skills. Both of these steps would result in a diffusion of power rather than concentration. Such an approach has some similarity to the Japanese management model.

To the extent that increased awareness can enhance our ability to respond to a problem, a form of system assessment may also be useful. The process could be analogous to technology assessment, but the focus would be on the impact of any proposed major action on the three dimensions of a free society. At least through such a process, any trade-offs that were being made would be recognized. An assessment of this kind could tackle one of the difficult aspects of this problem. For each of the individual problems discussed earlier (crime, environment, etc.), there are plausible and rational responses. The side effects of those actions alone might be slight. But the cumulative consequences could be massive. Hence, a process of

³⁸ Miller, G. A. *Assessment of Psychotechnology*, R. L. Schwitzgebel and R. K. Schwitzgebel eds. (Holt, Rinehart, & Winston, N.Y. 1973).

³⁹ Crockett, W. J. *The Management Conflict with Democratic Values* (Business Horizons, Oct. 1973).

⁴⁰ Crockett, *Making Democracy Safe*, presented to Academy of Management, Santa Barbara, Calif. Apr. 1976.

overall assessment might provide the necessary overview that would be able to highlight such overlaps. Similarly, no single response will be adequate to tackling so pervasive a problem area. The cumulative effect of a constellation of counterthrusts will be required. This form of assessment will be a necessary part of evaluating such counterthrusts.

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CHAPTER 3. CITIZEN PARTICIPATION AND SELF-HELP GROUPS: SOME OPTIMISTIC NOTES ON THE FUTURE OF DEMOCRACY *

(By Bruce Stokes, Senior Researcher, Worldwatch Institute, Washington, D.C.)

One of America's foremost but really unsung philosophers, in my mind, is Woody Allen, who recently in the *New York Times* posed the dilemma facing American democracy. He said we are at a crossroads in our history; one road leads to despair and hopelessness, the other road leads to utter extinction. We can only pray that we have the wisdom to choose correctly between these two roads. He may have overexaggerated a bit but the reality is that we do face a series of unprecedented problems over the next 20 years and the test of American democracy will be to see if we can adequately respond to them.

The price of oil the last time I looked was about \$34 a barrel, but people like James Schlesinger, the head of ARCO and a number of other major oil companies predict that by the end of this coming decade, \$40 a barrel for oil is quite probable. Similarly, the major biological systems that support our economic system and support the social systems on top of those economic systems are under severe threat. My colleague Lester Brown notes that during the seventies world per capita production of meat, fish, wool, timber, and a number of other products of the biological system all peaked and are now leveling off. We were producing more per capita in 1970 of each those items than we are today. What this has meant for the economic system is unprecedented rates of inflation in the postwar world and high and growing unemployment in both industrial and developing countries.

These problems are overwhelming the traditional problem-solving mechanisms of society. Our economic system is based on \$2 a barrel oil, not \$34 a barrel oil. It is based on \$2 a bushel of wheat, not the \$5 a bushel of wheat that we had in the early seventies and we will inevitably have the next time there is a major drought in one of the grain producing areas of the world. In the Depression, when we faced a similar series of unprecedented problems in this country we turned to big government to solve those problems. I suggest today we no longer have that option, that people are not willing to give over greater control of their lives to big government, and they are not willing to fund it. We are experiencing a backlash against Government interference in people's lives which I think will limit the extent to which we can rely on public policy to solve the problems of the eighties and nineties.

* This paper is an updated revision of a paper presented at a CRS workshop on the Future of Democracy. As at all CRS workshops, a wide range of perspectives was presented by individual spokesmen and consequently the views presented do not necessarily represent the Congressional Research Service. Updating and editing were done by CRS.

We need to reassess the problem-solving paradigms in our society, to look again at what individuals and communities can do to try to solve some of their own problems through self-help and to assess what is the appropriate role for the marketplace or the appropriate role for government in facing the problems of energy, the decline of the biological systems, population growth, and economic stagnation.

A. THE SELF-HELP RESPONSE

Three of the major problems of American society are also three of the major forces of the consumer price index: food, housing, and health care. Those three items make up a lion's share of the consumer price index. In each case there is a great deal of self-help going on in the United States to try to solve the problem.

For example, during the seventies the Gallup Polls show that annually approximately 44 percent of all American households grew some of their own food in vegetable gardens and fruit gardens. This is a \$10 to \$15 billion a year business. It represents a remarkable involvement of people in trying to solve some of their own problems. They are finding that they can produce \$300 to \$400 a year in vegetables, possibly cutting their own food budgets by up to 10 percent. Gardening is not going to solve all of the people's problems, home food production is not going to feed the world, but it can give some people a buffer against inflation.

Similarly, as housing prices continue to rise in this country, the do-it-yourself home maintenance and repair business is booming, and now represents a \$28 billion a year business. In addition, more than 200,000 houses in 1978 were built where the homeowner was the prime contractor, enabling that person to save anywhere from a quarter to a third in construction costs.

We see the same potential for self-help in the health field. Today 80 percent of the illnesses that are brought to the medical system are chronic illnesses—asthma, diabetes, hemophilia, etc.—all of which are very susceptible to self-care. So we see a growing interest both by the medical establishment and by individuals in holistic medicines, self-care, and preventive health care efforts. Already 10 million people belong to self-care groups.

What this all means is that we are beginning to see individuals and communities become involved in solving their own problems. They are asserting their right and their responsibility to be involved and to have some control over a minor part of their own lives. The alienation discussed in the previous paper has not left people in despair; it has created an activism at the grass roots which I think, at least in recent times, is unprecedented. Through self-help people are redefining their own competence. They are saying, "Yes, we are facing difficult problems. Here is what we can do to solve them and here is what we think the Government has to help us with or that the marketplace has to handle."

B. A SELF-HELP DEMOCRACY

The implications for American democracy are quite evident because a democracy requires active and informed citizens who believe that what they think and what they do is important. Self-help

permits people to define and perhaps alter their role in their society. It gives them a certain level of competence they did not have before in the fifties and sixties when they were turning over control for the solution of these problems to the bureaucracy or to the marketplace. We were in a different world then. We were in a world of rising expectations, a world of rapid economic growth. So it was easier, it was cheaper to allow someone else to do it for us. That has all changed now.

As a result, Government has to redefine its role in problem solving. We are already beginning to reach the limits, the institutional limits, the financial limits, the human limits of Government's role. Institutionally large bureaucracies appear to be increasingly inefficient. The ability of people in large bureaucracies to get things done quickly appears to be severely hampered. Similarly, the financial resources available to the Government are limited. People are unwilling to pay more in taxes and the slowing of economic growth and the continued slow growth projected by some for the eighties suggest that the financial resources available to the Federal Government and to local governments will continue to be limited.

And probably most importantly, the human resources available to Government may have reached their own limits. As Rufus Miles of Princeton points out, the issues that we are confronting today are so terribly complex that any efforts to synthesize them and to coordinate some response to them in a centralized manner are likely to fail. One alternative is to accept a certain amount of inefficiency, possibly a certain amount of confusion, and encourage various local community and individual efforts in response to these problems.

Government's role in this process can be either passive or active. Conservatives, for the most part, would argue that we should let local communities and individuals do more to help themselves, that Government should stand back in most instances, and that somehow this process will work itself out. The issues are far too complex for such a passive role, however.

We need an active, involved Government, one that is helping people to help themselves, encouraging self-help efforts, designing Government programs that are built to encourage people to do more to help themselves. This means that Government must take a leadership role in defining the ideals of a self-help society. Our society was, in fact, founded on self-reliance, on individual and community competence and control over our own lives. We need to redefine those roles in light of the problems of modern technology, in light of the problems of the economy and the environment, that we now face. We need to create a framework in which people at the local level can analyze and coordinate solutions to their own problems.

Unfortunately, over the years we have disempowered many of our local problem-solving units. We have overwhelmed many of the formal and informal networks that used to exist at the community level. We need to recreate these linkages, these groups that have both legitimacy in the local community and the ability to affect and change people's values and their behavior.

There is also a need to reassess Government programs in light of new self-help initiatives to make sure that Government activities

do not overwhelm indigenous self-help efforts. Through bureaucratic and legislative initiatives, we need to underline the legitimacy of and give prominence to self-help programs. For example, there was until recently an urban gardening program at the Department of Agriculture, a very small program. There was an urban homesteading program at HUD. There is an office of neighborhood self-help development, also, at HUD. Those kinds of programs were good initiatives that need to be replicated in other departments; they need to be encouraged and highlighted, not abandoned. We need to establish through the legislative history of various appropriations a clear message that Congress has an interest in selfhelp as one of several approaches to the energy problem or the environmental problem.

We may also need to create new funding mechanisms that will enable us to channel money more effectively to local groups and to individuals. The Co-Op Bank is one example of such efforts. There was until recently a self-help fund at HUD to help neighborhood groups do their own projects. On the international side there is the Inter-American Foundation which has over the last 10 years successfully funneled money to cooperatives and community groups in Latin America in a way that I would suggest is probably as effective if not more effective than AID's much larger programs in Latin America.

Government's relationship to the self-help movement is a crucial one. Today, we define Government as either centralized or decentralized. It is big or it is small. We are moving into an era, however, where Government has to be both. It has to be highly centralized in certain facets of its operations and highly decentralized in others. We need to decentralize to the lowest level possible the immediate responsibility for problem solving to the lowest level conceivable and at the same time, centralize some of the analysis, centralize some of the data gathering, centralize some of the goal setting for society because it is at that level where enough information can be put together and the interrelationships between problems can be understood.

For example, there are about 17 countries that dump their waste into the Mediterranean Sea. Now, it is inconceivable that we can ever clean up the Mediterranean Sea if we do not have those 17 countries sit down around a table and analyze what they are doing, and assess what they are not doing. But no one is going to clean up Naples Harbor except Naples. That is a responsibility Naples has. The good citizens of Naples are not going to allow anyone else to come in and clean it up. It has to happen at the local level.

The Chinese have launched what is probably the most successful family planning program in the world. Their population is probably growing at about one percent a year. They have instituted a one child family policy through a combination of highly centralized goal-setting and highly decentralized implementation of a family planning program in which couples sit around in meetings of 10 or 12 people and decide how many children they are going to have among themselves. This is a decision the Government can not make for them. They have to decide it themselves. But there is a dynamic tension between this highly centralized government and

this highly decentralized responsibility for problem solving which I think we need to implement in this country on a number of issues.

This will initially involve broad goal setting at the national level. Today it may be energy conservation, yesterday it was integration and civil rights. How much energy we use cannot blithely be decided at the local level in such a way that the broader goals of society, the ideals upon which our society is based or should be based are somehow consistently and continually violated. But how we attain a reduced level of energy consumption-whether we insulate houses in the Northeast, reduce driving in the West, turn to solar energy in the South-can and should be left up to the local level.

American society, like the human body, is a complex system of continual accommodation and adaptation. Not only is it both centralized and decentralized, but at any particular time what constitutes the centralized or the decentralized aspects are moving around and being reallocated as a function of the circumstances to be dealt with. Unfortunately, we are locked into a long Western tradition of two-valued logic that prescribes that things can only be decentralized or centralized, they can't be both. But they can be. Most issues are organic, constantly changing. When you involve people directly in some of their own problem solving, they see this complexity. They can no longer look at a problem and say it is either black or white. They begin to realize the grey areas that predominate.

C. THE SELF-HELP VISION

If we can begin to make support of self-help a component of Government programs, then I think we can begin to shift the way we look at problems and how Government addresses these problems. The first and the last question we ask should always be what can individuals and communities do to help themselves and what can Government do to enhance that capability. It may well be that in many cases there is nothing people can do to help themselves. The issue may be too complex and beyond people's control, but I think the reality is that today we seldom ask that question. All too frequently we assume that the problems of the eighties and nineties are international, that they are interdisciplinary and for that reason big government needs to be involved. I think this overstates the case. But more importantly for American democracy, if more selfhelp is encouraged, we can begin to implant at the local level a whole series of political skills, organizational skills, which are likely to benefit the country and the society. If people at the local level begin to work on some of their own problems in a way they have not for years they can begin to form new political alliances, to define their own competence and to begin to challenge those political and economic institutions which inhibit their full development as human beings. Then we can begin to create a truly participatory democracy.

In the seventies I think we tried to create that participatory democracy by getting people more involved in their own governance. The sunshine laws, the open meetings laws, the campaign finance reform laws were all an attempt to involve people in Government in a larger way. I think the eighties will be an era of participatory

politics in which people are involved in defining and solving their own problems and only then looking to Government to do those things that they can not do for themselves.

In this way, the self-help movement may strengthen our democratic system by reducing people's expectations of it. The American people face a whole series of problems that may not have solutions but may only be manageable. Ultimately, we may gain some control over these issues without really solving them. Unfortunately, our problem-solving skills are out of practice. For too long we have foisted problems off on the Government or on the economic system. We have lost any understanding of the complexity of issues. As a result, we have unrealistic expectations about what the government or the marketplace can do with problems. I suggest that as people become more involved directly in defining and analyzing their own problems in a democratic fashion, at the local level, there will be an increased understanding of the complexity of issues and the limits to which human beings or political and economic systems can go in trying to solve them. A democracy that understands its own limitations is a healthier one.

In conclusion, as long as our own view of self-help is restricted to things like jogging and various psychological movements and religious cults, then self-help's potential will always seem limited. But if we broaden this vision to include people's efforts to gain some control over housing, food, and health care problems, we see self-help in a new light. It has become a means by which citizens are reinvigorating American democracy and charting a new course somewhere between the public and the private sector.

CHAPTER 4. TECHNOLOGY: RESHAPING OR DISTORTING DEMOCRACY *

(By Joseph Coates, President of J. F. Coates, Incorporated. At the time this paper was prepared he was a Senior Associate with the Office of Technology Assessment.)

A. ASSUMPTIONS ABOUT DEMOCRACY

It is useful to make a few assumptions clear at the outset. First, that democracy is fragile, second, that technology is the dominant factor influencing democracy today and third, that the republic, the United States as a democratic system is in mortal danger. In order to relate democracy to technology, it helps to state a set of specific necessary conditions for a democracy.

First, a democracy has to be on the move. Democracy cannot be stable. It either has to expand or contract. So, one question is whether technology is helping it expand or contract? Second, education or, more generally, being informed about your society is essential to democracy. Third, information, that is, the knowledge, to implement sensibly is crucial. Fourth, prosperity, or at least as a minimum, an egalitarian sense of the potential for upward movement, is essential to democracy. Fifth, the choices must be real, not foreclosed. Sixth is shared belief. There has to be a sufficient base of understanding, the ability to speak in some common set of similes, metaphors, some common ideological base. Seventh and finally, there has to be some diversity since a homogeneous society in moments of stress is most likely to become an oppressive society. With these seven conditions for democracy the exercise becomes one of looking at how technology affects each of those conditions. Technology is both enhancing, inhibiting, and perhaps most importantly, changing each of those seven conditions for democracy.

B. TECHNOLOGY, SCALE AND BUREAUCRACY

To limit this discussion to contemporary America is probably sufficient. One of the characteristics of technology is that it tends in the contemporary world to increase in scale. There are economic advantages to scale. An auto manufacturer cannot make a \$5,000 automobile but it can make 100,000 automobiles for each \$5,000. Scale is a basic driver in the economy. It tends to lead to largeness, the largeness itself automatically leads to complexity. And the rub is less in the scale than in the complexity.

Society's ability to deal with complexity is stressed. It is stressed for several reasons. Complexity demands expertise and expert

* This paper is an updated revision of a CRS workshop on the Future of Democracy. As at all CRS workshops, a wide range of perspectives was presented by individual spokesmen and consequently the views presented do not necessarily reflect the views of the Congressional Research Service. Updating and editing were done by CRS.

knowledge is intrinsically, not accidentally, at odds with democratic processes. The complexity of our technoeconomic system demands, because it is our technoeconomic system, that expertise be brought to bear to plan, design, manage, and execute things by criteria of effectiveness and efficiency. Those are criteria which are inimical to democracy. Consequently, when one calls upon expert guidance in questions of public policy with regard to technology one immediately runs into three problems: who are the experts, how are they certified, and perhaps most critically, in what exactly are they expert? Expertise is a narrowing process, not a broadening process. Yet every critical issue the society faces is an issue that slopes over the boundaries of any expertise. The problems of technology involve scale and in turn involve complexity and in turn require expert knowledge which leads to the dilemma of how to employ expert knowledge in democratic processes. An example of this dilemma is the present ambience toward risk. There's a mad, mad search throughout government in a dozen agencies for something called acceptable risk, so that you can set standards. Throughout the history of the United States we've never approached risk from the point of view of identifying and defining standards at the beginning of a process but we've rather had a process which has been open, iterative, experimental, experiential, and learning. Now suddenly, we find this tacit conspiracy between the bureaucrats and the experts trying to drive us into some infinite regress of research and study to find acceptable risk. It's totally antithetical to the process that's worked in the past but it's a bureaucratic expert game.

The mediating organization for the employment of expertise is almost always bureaucracy. Bureaucracy in an American system, in any contemporary western system including Japan, is not accidental, it cannot go away, it will not go away. But bureaucracy is a melancholy institution. We know from the 70 years of research by Max Weber and his numerous intellectual descendants that bureaucracies will lie; will try to avoid their mission; shun controversy; in general avoid a look to the future; and avoid anything which puts the status quo at stake. Yet in a world fraught with problems and with a bounty of opportunities we find the dilemma that bureaucracy is all we have. But bureaucracy, in the eyes of many, does not appear to be up to the task. Bureaucracy is the central institution of our society because of complexity, complexity demands expertise and the natural habitat for the expert is the bureaucracy. There is no other way to employ expertise in a large and systematic scale except in a bureaucracy. The way out, which this paper will not probe any further, has to do with the rewards structure of bureaucracy. Those who are in bureaucracies or have had close acquaintanceship with them will realize that there is no measure of success in any large bureaucracy. There are no criteria for identifying the people who have promoted success and there is no sensible system for rewarding them. Consequently, bureaucracies proceed in at least a decerebrated if not mindless way.

C. TECHNOLOGY AND DEMOCRACY

Technology in relation to the political system is an essential element influencing the survival of democracy. But, technology creates a new set of problems for survival that are not necessarily found in other political systems. Characteristic of the complexity of our society is that the economic-technical institutions are fully integrated. Whether their integrating nexus is in Dearborn, Michigan, New York City, Chicago, Los Angeles, or Austin, Texas, the headquarters of every one of the Fortune 1,000 is the headquarters of a totally integrated organization. That organization knows what is going on in its province, in its bailiwick, in its domain. In sharp contrast to that, as a result of our constitutional set-up, there is a total mismatch between the technoeconomic system and our system of governance. Few are in charge of anything in the American government. There is no agency or institution that even has the minimum responsibility for the collection, organization, and presentation of information, with a degree of integration that matches the boundaries of today's problems on any subject of importance to you as a citizen, as a member of an organization, as a businessman, or as a government functionary. The 1981 Global 2000 report clearly illustrates this. The preface of volume three notes that prior to the study no one of the persons ultimately responsible for the longterm global projections in any of the participating agencies knew anyone with a similar responsibility in any of the other agencies. This intrinsic mismatch is between a fully integrated technoeconomic system and a nearly inchoate political system of governance of that technoeconomic system.

Let us explore the hypothesis that the Constitution is an obsolete document in terms of managing technology and there are no other important terms to manage. One normally does not think of the Constitution as a technologically oriented document but consider one of the most sacred of provisions in the Bill of Rights: the freedom of the press. It is not freedom of the manuscript, it is freedom of the press. What people wrote did not become a significant political concern until moveable type, rotary presses, cheap paper enhanced the ability of people to influence political decisions. Then the counter movement of government to lay a heavy hand on the new technological threat began. For example, even in Russia today and throughout most of Western history there is near absolute freedom of the manuscript. The Samizdats are a well-known phenomenon. Russians can write and circulate almost anything because the manuscript, whether by hand or typewriter, is self-limiting in its influence.

Some of the ten articles of the Bill of Rights are technologically driven by the issues of the 18th century.

The Second Amendment, protecting our right to bear arms, obviously is tied directly to the technology of arms. The Third Amendment, assuring us against quartering of troops in peace time and their illegal quartering during war, reflects a social invention, the mass army, and the acute maintenance and logistics problems raised by that social technology. A constitution driven by the technological issues of the 21st century may now be needed. Technology, however, and its handmaiden, science, has another influence

on democracy through the very process of the generation and utilization of knowledge. The great irony in the development of new knowledge and new technologies is that the more important they are, the greater the scotoma of ignorance the new science and new technology creates.

One of the characteristics of the modern world is its increasing interconnectedness: a pull in one place creating a snag in some other unexpected place. Using an analogy from the physical sciences, our world is increasingly molecular. The atoms of society are linked to create new patterns, new relationships, new functions, and new capabilities, which are not obvious from the characteristics of the individual elements. Yet, our world is one which largely reflects concern about those atoms of society. Intense attention to the individual unit at the expense of the integrated social unit was quite appropriate in simpler times when the influence of actions were very limited. Our interconnected world, however, requires constitutional renewal which addresses such issues as...new rules of privacy appropriate for a complex, information dense, knowledge dependent world, ...and a stable structure of authority. Someone ought to be able to say something with the expectation that it will stick for a reasonable length of time in contrast to the present situation in which rules, regulations, and legislation are upset, distorted, interpreted, reinterpreted, expanded or contracted by the interactions of the executive, legislature and judicial branches of government. The right to hold office, for that to be anything more than a paper right, must include the provision for access to financing for return to ordinary life...The right to knowledge and information...The right to participate in institutional decisionmaking...The divorcement of property rights from family and paternity...The rights and duties of corporate and institutional citizens...The right to own intellectual property...Freedom from environmental insults and harassment...An explicit docket of duties and obligations should arguably be a part of the Constitution. Intrinsic to the process of generating new knowledge and new capabilities is ignorance about their consequences. One can look at Harold Green does at the nuclear energy situation as illustrating this. The enormous new knowledge of atomic and nuclear power fell in the hands of legally institutionalized advocates who chose to be, or perhaps were, otherwise blinded to the enormous ignorance generated by that new capability.

DNA is another example of knowledge generating ignorance. But ignorance of technology and science comes in two forms. First there are the limitations on the knowledge of the consequences of the technology. Because technology has been associated with prosperity and the movement toward a middle class society in America, there is a second form--perhaps a more serious form--of ignorance associated with the present system: the general ignorance throughout the middle class of how the world works. The consequence of this mass movement into ignorance about how the world works creates an important new political distress.

When trouble arises and the populace is ignorant it cannot separate symptom from disease. It cannot tell the major from the minor disorders. From my perspective what frequently happens is we move to one of two alternative canonical solutions: scapegoatism,

find the bastards, drive them out; or call forth the shaman, the man on the white horse, or the savior.

The third effect of technology in the contemporary world is that the dominant consequences of technology are increasingly not the planned consequences but the unplanned and normally unanticipated side effects. There is virtually no consequence of technology that is wracking the body politic today which is not a side effect. There is nothing wrong with automobiles. They get you where you are going. The problem is all with the side effects. There is nothing wrong with nuclear power, it is all with the side effects. There is nothing wrong with the practice of medicine, it is all with the side effects. That creates two interesting stresses for democracy. First, the democratic process cannot deal effectively with side effects. Or at least in most cases it has not until now, simply because the hand of government is of necessity macro. Government simply cannot do one thing. Government can only do things which have tentacles of effects. Government cannot be subtle or has not been subtle. Yet side effects are virtually by definition matters of subtlety. The gross hand of government, whether it is the hand of the Congress, or the hand of a Federal agency, frequently overdoes it or misses the mark. Some perceive the government killing flies with a howitzer.

But how do the side effects arise? The side effects in large part arise out of the domestic technoeconomic system. It is in the interest of every organization, particularly in the interest of every manufacturing organization, to externalize as many of its costs as it can. Externalizing costs mean two things. You pass those costs further down the chain to other buyers and sellers or you dump the crud onto the public or on the government. You spew the crud into the air or dump it in the river. It is not accidental, and it is not going to stop so long as we persist with the present economic system. Side effects will be externalized and side effects will come back like Love Canal.

Incidentally, to show what the choices are, a rough calculation indicates that every pound of organic chemicals produced since World War II has incurred external costs and, hence, internal savings, of one cent per pound. So those chemicals which may have averaged 35 cents a pound since World War II have created a 3 percent external cost which comes back to society in many different forms.

D. INFORMATION TECHNOLOGIES AND DEMOCRACY

The themes emphasized here go back to the seven points made earlier about necessary conditions for democracy; they all deal with information. The central and crucial role of information and information-related technologies ties into the future democracy. Again, as with almost all other technologies of any interest, the case is mixed. There are no pure benefits and there are no pure horrors. [There is not any technology, by the way, that seems to be a unrelenting benefit with the exception of the band-aid.]

Let me suggest some interesting mixed cases. Satellite communication promises to be a great boon by bringing people together who are normally apart, by giving diversity, clarity, choice, style, and

reliability to communication. But one of the uses of the space satellite by the Congress is to enhance one of the most doubtful aspects of the political process. The experiments to date are "can you put Mr. X in closer conjunction with his constituents" who are, incidentally, already driving him nuts. But the short term marginal advantage is what drives the system into another pernicious round of applications. It is like those mindless, mindless machines. Have you ever walked through the Senate offices at night and see those mysterious machines out of some science fiction story typing those Dear Mr. Smith letters? And who do they kid for more than six months? Yet, it is optimizing on the junk which is characteristic of the early employments of new technologies. And the question is, can we overcome shallow use of information technology and make technology an effective instrument of participation? Can we use this new technology to collect subjective judgments, feelings, opinions, attitudes, and to bring a new degree of voting and participation to our policy processes? Can we overcome with cable television the disappointment that both commercial broadcasting and public broadcasting has been? Can we effectively find ways of financing diversity and quality so that we can offer choices to the people? Technically, it is all well within our grasp.

A more positive example of an information technology dealing with a current issue is the great concern about privacy of records. It is now technically within our capability to provide each citizen with fully portable electronic health records. The person could provide the records to the hospital or physician on an automatic call-up system when needed and also walk away with the pull records and guard his privacy when the event passed.

The point I would make is that we've moved to the stage where technologies now include not just physical technologies but also biological, social, and institutional technologies. In my view, Congress is consistently reluctant to recommend or to recognize two things: that there are these other families of technologies and secondly, that they can be approached by the same conceptual strategies that one approaches a water works or a skyscraper or an environmental intervention. Until we begin to develop these strategies, the Congress is going to continue to have serious difficulty.

CHAPTER 5. SOCIETAL CHANGE, THE NEW COMPETENCE, AND LEGISLATIVE BEHAVIOR*

(By Donald N. Michael, Emeritus Professor of Planning and Public Policy,
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A. INTRODUCTION

My remarks are going to focus on the most uncomfortable topic of all those discussed in this volume: ourselves. I want to start first by reviewing a few aspects of the context in which we operate, and the organizations with which we're associated, not only Congress but corporations, bureaucracies, third sector, etc. I want to review that context very briefly to remind you of a few things. Then I'll indicate what that context may require by way of changes in our behavior and our norms. I'll end up talking more specifically about what this means for me and thee right now.

B. THE CONTEXT ISSUE

The context goes this way: first off, things aren't working and the situation is getting worse. I had a long list of them here but you've heard enough of them so I shall just cite a few examples:

Unexpected and increasing variety of toxic substances and no adequate conceptual basis--hence no adequate policy--for dealing with the likelihood of interactive effects from them or for deciding on an appropriate balance of costs and benefits.

No *proven* safe means for disposing of nuclear reactor wastes.

An educational system that produces about 20 percent functional illiterates and a large proportion of adults unable and unwilling to comprehend the ideas about or processes of this ever more complex society.

No adequate theory of social change in a turbulent world.

Excessive preoccupation with individual gain and goals whether the "individual" is the person, group, corporation, state, or nation, just at the time where it is increasingly clear that interdependence at all levels is the key to survival.

No sufficient restraints on arms proliferation anywhere at any level of technological sophistication.

Increasing crime and violence and no adequate means for reducing it in an open democratic society.

Not only aren't they working, but the second point I'd like to make about the context is that we have simply *no* adequate model to understand the dynamics of social change. We've got a lot of ideas about this and, doubtless, each of us has an implicit model for what is going on in the society, what's changing in the world and what's cause or what's effect. But the fact is, none of those models

* This paper is an updated revision of a paper presented at a CRS workshop on the Future of Democracy. As at all CRS workshops, a wide range of perspectives was presented by individual spokesmen and consequently the views presented do not necessarily represent the views of the Congressional Research Service. Updating and editing were done by CRS.

has been validated. None is remotely adequate in terms of linking the sociological, psychological, economic, and political aspects of turbulent social change. None has been checked against the other. In a formal sense--in a scientific sense--we are profoundly ignorant of the processes that underlie and influence the very circumstances that we're trying to deal with, indeed that we're simply trying to describe.

Three quick examples demonstrate the profundity of our ignorance. One, we never have been able to, nor can we now, predict birth rates. This says a great deal about what we don't know about persons, groups, societies, organizations as well as about the factors that influence birth rates. Second, economic forecasts at very best are good to three quarters out and usually not that far. None of the big econometric models work. You'll find the economists' economists, some of the best economic theorists, like Georgesque-Rogan, Adolf Lowey, and Wassily Leontieff believe that economic theories never have been adequate. They are even less so now, as the premises on which they were based become less and less applicable under the conditions of changing norms and values that seem to be increasingly prevalent. The third example of our lack of understanding of the dynamics that underlie the kinds of changes we're trying to cope with is the unsolved question of the place of the great person in history: does that person create history or does history create that person? You can substitute event for person, if you like. (Answering, "both" doesn't say anything about why.)

Another aspect of the context is the increasing distrust of the very institutions that we demand more from. The greater the distrust the fewer signals an institution can send or actions it can take that are believed and respected--which leads to more distrust and mutual hostility. While self-help activities can indeed help, there are still tasks of macro-governance (including government) that are necessary to provide the context for self help. At present, the needed trust is not forthcoming so the context is sparse.

The last contextual circumstance I want to highlight is the growing number of socially concerned leaders and professionals who are fed up, despairing, cynical, burning out, and dropping out of their professional and leadership roles. A legislative audience hardly needs to be reminded of this situation. However, it is important to know the mood and withdrawal is growing in this society and in Europe as well.

So much for what I want to emphasize in our context.

C. BECOMING A LEARNING SOCIETY

In this light and in view of what the other papers in this report have said, there is really no meaningful option but to attempt to create a new approach to the way we conduct our lives, structure our organizations, and choose the norms by which we operate them. I emphasize create because all the evidence makes it clear that the social reality in which we live is a human construction--albeit one mostly created unconsciously. A characteristic of that creation is that it seems natural to those who live in it. If you look through history, if you compare cultures, you find that for their members, what's natural, normal, unavoidable with regard to

human behavior and relationships and social structures--i.e. real--varies enormously. In other words, real as they seem, they are all social inventions. As inventions, in principle at least, they are subject to change. Given the kind of mess with which we are preoccupied, it is important for us to transcend our social reality and recognize it as an outmoded invention badly in need of change.

The change I would propose to you is that we abandon acting as if we knew the answers to what we were doing; acting as if we were in control of the situations that we're attempting to manage; and acting as if decision-making processes really worked. Instead, I propose we construct our social reality as one in which we believe the natural condition for ourselves and our organizations is that of being *learners* because in fact we really don't know where we're coming from or going to. We are going to have to learn what we're doing and what we might do and, most importantly, where we want to go and be. (With regard to our physical world, we often do have answers but, even here, our new knowledge often tells us how much we *don't* know. Think of toxic substances, for example. With regard to knowledge about complex human, societal, activities we chiefly know we don't know, and I say this as a sometime social psychologist.)

Not only do we have to become learners, but we have to do this openly cause everyone has to become a learner, not just the decision maker, not just the expert, not just the politician or the corporate executive, but everybody. A *societal* reality that has to be created. If only a few members of the society act this way it won't work: they'll be smashed by those who think that the leadership and the experts ought to know the answers, ought to be able to control things or, alternatively that, even if the experts and leaders don't, they ought to.

However, a shift to a learning norm from more or less an engineering norm of conducting our lives would be a *necessary* condition for inventing a more viable and tenable and humane world but probably not a *sufficient* one. Many other things would have to happen too, but such a learning norm would probably encourage other changes as well.

What would it mean to be a "learner"? What would constitute the "new competence" for doing so? Very briefly, I have listed a few of the behavioral requirements that go with that way of being for us as persons and for the organizations in which we seek to contribute to human well-being. If you want to substitute for learner "experimenter" or "researcher and developer," that's fine; what is critical is to shift from a mode of believing and acting as if we know the answers to a mode where we acknowledge we don't and that our task is to discover our way into the future, to learn our way.

D. THE NEW COMPETENCE

One requirement for the new competence is to live with and *acknowledge* high levels of uncertainty. This is hardly the sort of attitude that now characterizes those on the Hill. Acknowledging uncertainty is not the sort of thing one does in most corporations, or in most settings in this society especially, school. One is supposed to know the answer. But one has to acknowledge uncertainty, obviously, if one is going to learn. If everybody acts as if they knew

what they were doing and are unwilling to level with others that they don't and that, instead, they have to experiment and discover, then there is neither a normative or operational basis for learning jointly or even separately.

I believe there is another reason for acknowledging uncertainty that makes sense even in terms of the old competence as defined by the old reality. Distrust is already so high toward those people who, by virtue of role or words, claim they know what they were doing, that it is likely to become politically expedient to say that we really don't know what we're doing and inviting constituencies and clients to join in trying to discover what we are doing and what to do about it.

The second requirement for the new competence needed to become a learner is what I've been calling *embracing error*. Now we reward everybody from presidents to janitors, for hiding their errors or for successfully blaming somebody else if they are caught, or, if that won't work, for pretending it wasn't important. Instead we should reward people for designing the new activities that they are attempting to develop so that they are most likely to discover errors in the activity as quickly as possible and then use what's learned to try again. We've done that in some systems, notably in some science and engineering activities, but we have not done it in those human and societal development situations where it is most needed.

I am proposing rewarding error embracing in innovative areas. Errors that result from sloppy, unskilled, indifferent behavior in routine situations would remain reprehensible. Treating innovative activities as *routine* would constitute sloppy, unskilled, and indifferent behavior according to the new competence criteria.

A third attribute of the new competence is increased interpersonal skills pertaining to task group work, small groups working on problems, and the like. We are abysmally poor at listening to another person, at supporting other people in developing their ideas, their intuitions, their struggles to shape half-formed thoughts. We are miserably incompetent at establishing those kinds of relationships among ourselves that enhance the opportunities for *using* new ideas, for taking risks with ideas, for working well in task groups, for adding into the data the feelings and values of those involved, (that are *always* present, acknowledged or not, in any discussion of any kind of program or policy, even when the subject is numbers). Learning to overcome these interpersonal incompetencies becomes part of the skill required to be learners and they are learnable skills. People have learned them and use them to great advantage.

There are several other attributes that contribute to the new competence necessary for implementing a new social reality that emphasizes living as learners. Time and space preclude even summarizing them here: they are detailed in my book, *On Learning to Plan and Planning to Learn* (Jossey-Bass, 1973). But now we must turn to what do you do, what do I do if one seeks to be a learner, if one wants to perform in these ways?

Well, we start with self-help. And the self-help consists of asking oneself regularly a few questions: *Where* am I going to be as things work less and less well? *Why* am I going to be there? *How* do I feel

about that choice? *What* risks will I take to try to do something to change the reality? *What* capitulations to the old ways am I willing to make in order to protect my economic, social, or political position? If you ask yourselves those questions continuously and really take them seriously your awareness of who you are and what's going on will increase greatly. As a result, your sensitivity will increase to targets of opportunity for making other changes in yourself and in others that move toward a learning mode. You will begin to see possibilities about doing things, about moving to a learning mode, that you will not see if you do not continually confront yourself with those questions.

These are desperately serious and unhappy questions in these times. To deal with them, you must do something else: build yourself a support network of people. It needn't be very many people and they needn't be where you are geographically. They can be at the end of a telephone or a letter. Such a network should provide you with three things. First, information that will expand your sense of what's going on in the world. Second, occasions to examine and reexamine the ethical implications of what you are doing in your professional role. In a world where we can no longer believe we know the questions, much less the answers, there can be no easily assumed ethical stance. All actions that we believe further the public interest or might further it become subjects for ethical attention. A support network can help you stay honest or at least attentive to the ethics of your activities--if you desire it for that purpose. It can help you sustain the pain, loneliness, and anxiety of facing and living with the unavoidable ethical issues which in our times must weigh down learners. Third, a support network should provide you with the nurturing and care you deserve as just a plain human being who's in a lot of pain. And you *will* be in a lot of pain if you go this way. (Of course, if you don't go this way you're going to be in a lot of pain, too). So, you need a support network to nurture you, to care for you, just as you'll be caring for the other people in that net.

In addition, look around for opportunities to exploit the political usefulness and appeal of acknowledging uncertainty and error embracing. Embracing error and acknowledging uncertainty can be done at hearings, and during oversight and foresight activities.

Another important action you can begin right now is to emphasize systemic approaches to the questions that are asked in hearings and oversight and foresight activities and in the statements that emanate from such activities. A systemic perspective helps emphasize the enormity of our ignorance about social change and thereby the imperative of a learning norm.

Earlier I mentioned the necessity to become competent in interpersonal skills. In addition, it is imperative to become competent at searching one's self: Who am I? Where am I going? Because as with *all* educated, involved people in a changing society the values you hold are in deep conflict at one level or another. And they're going to stay in deep conflict because it is not possible to have a consistent, ordered set of values if you grew up in this society. For example: freedom vs. equality, autonomy vs. community, and risk vs. security. If you don't examine your values and value conflicts, if you don't attend to them, you can't deal with the excitements and the

terrors of being a learner. What is more, you can't live with yourself except in a cynical, deadened, dull way--which makes you part of the problem.

What all this says is that there isn't something to do once and for all on Monday morning or any other morning, some button to push, some control to manipulate, in order to become a learner, to embody the new competence. It took us 300 years to get into this mess though, in the process, we accomplished a lot along the way. So you must see yourself (and I try to see myself) not as a controller but as a cultivator, as a nurturer of a new way of seeing self and seeing society, of being self and society. Hopefully, in the process, you will contribute something to the creation of a reality that has a capability for avoiding disaster--a disaster I believe that is certain if we persist in acting in the ways we do because "it's the only politically feasible way."

E. SOME AFTERTHOUGHTS

What follows are responses to subsequent questions. They refer to issues that frequently arise after this type of presentation and, as such complement it.

The Expert as Learner

Typically, in this society, learning means to learn the answer. When you were in school you were punished if you didn't know the answer. A large part of the conventional definition of the expert is "somebody who knows the answer." And it is a large part of how the expert sees him or herself; as somebody who *knows* how things work and what to do about it. Learning, as exemplified by error embracing etc., is an older and deeper approach to life. It requires being open, always open, always a beginner. One is an "expert" at being open to new knowledge, to new understanding, to new ways of perceiving, to new risk taking, always subject to change, to a continually emerging, unfolding situation. One is always discovering what's going on, what it might mean, what it is becoming. Being open to experience is being vulnerable, really. It's an old, old tradition recommended by all sages everywhere.

The new expert becomes one who is especially accomplished at knowing she he doesn't know. The new expert knows the limits of his/her knowledge and makes sure other people know it. In particular, the learner would be acutely aware of the inadequacy of any specific theory or discipline, for definitively dealing with a given social issue. This doesn't mean that the expert says, "Gee, there's nothing I can do for you". Rather it means the expert says, "Look, we can go this way, and there are a lot of other ways that we might go, too. I can help you with ways "A", "B", and "D" but you'll need other help for "C" and "E."

Centralization, Decentralization, and Separatism

The very ideas of centralization and decentralization are inadequate for diagnosing or redesigning our societal processes. The human body illustrates inadequacies of this approach. One cannot say that the human body is centralized or decentralized. It is a complex system in continual accommodation, adaptation, and in

the continual process of regrouping its components according to functional purpose. Not only is the body *both* "centralized" and "decentralized," but at any particular time what constitute the centralized or decentralized functions is changing and being reallocated as a function of the circumstances to be dealt with. So, there's another level of learning, of process, to be incorporated here which is missing at present. It isn't enough to just refuse Federal money. Nor is it correct to impose it on a reluctant recipient. We've got to learn *what* makes it appropriate to accept Federal money under some circumstances, and not under others. We haven't even begun to approach matters this way. In other words, just at the time people get excited about "decentralizing," the *concept* itself has become outmoded.

Indeed, much of what I've been saying in one way or another suggests that, if we're going to work our way out of our many interrelated predicaments, it's going to be by moving *away* from our overblown preoccupation with being a separate individual, separate ethnic group, separate corporation, separate nation, a separate whatever. That definition of social reality was very valuable in its time but now its costs are well on the way to exceeding its benefits. The environmental movement, ecology, holistic health, and the systems approach are all growing expressions of a new definition of social reality that emphasizes interconnectedness and dependence rather than autonomy and independence.

The frustration that burns out leaders is more the result of one expression of this preoccupation with autonomy and individualism than it is the result of large population per se: everybody insists on going their own way—ever more so in Congress, too—so nothing much gets done because everything gets in the way of everything else. And, while it is often true that Members of Congress fear the consequences of informing the public about the enormity of our societal circumstances it is also true that many of them are no more able to acknowledge and live with those enormities than are their constituents—for reasons I described earlier.

People, by and large, are not apt at coping simultaneously with all the terrors we face all at once. But we can start much more gently in the usual corporate, home, or school setting, rewarding the new competence in "everyday" situations, gradually building coping capability. If there is both population growth and a splintering of values, including, especially, disagreement about the rules of the game and the rules for establishing the rules of the game, we are into a very serious and novel problem: small percentages now represent large enough numbers of people to disrupt any procedure at all. We see that in all kinds of situations already—single issue voting, judicial injunctions, and the like. And until we discover a new social reality that transcends this obsessive preoccupation with self as one's own group that can fit most of us, the disruptions will continue and worsen.

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CHAPTER 6. CONGRESS AND THE DILEMMAS OF SCALE

(By Roger H. Davidson Senior Specialist in American National Government and Public Administration)

The performance of representative assemblies is closely linked to the population of the society that supports it—not only its size and distribution, but also its characteristics and even its virtues and vices. The impact of scale upon representative government has long been conceded. The Greek city-states, the birthplaces of much western political thought, were prevented from becoming large by the mountainous terrain that surrounded them and restricted their growth. Making virtue out of necessity, philosophers who praised the Greek polis also valued its modest size. Plato preferred a state small enough so that citizens would know one another and maintain mutual friendships;¹ his pupil Aristotle remarked that the citizen body should be no larger than could assemble in one place and be in hearing distance of a speaker.²

Responding to changed circumstances, Enlightenment thinkers saw the question of scale quite differently. Montesquieu, who believed that "a rising people increase and multiply extremely," wrote that

The politics of the ancient Greeks incessantly complain of the inconvenience of attending a republic, from the excessive number of citizens; but the politics of this age call upon us to take proper means to increase ours.³

Writing on the same point, Rousseau argued that there should be a "right proportion" between population and land area if a nation were to achieve greatness. He actually saw population growth as the most reliable indicator of good government.

That government is infallibly the best, all other things being equal, under which, without the employment of any external means, without the naturalization of strangers, without receiving any new colonists, the citizens increase and multiply. That is the worst under which they lessen and decay. Calculators, it is now your affair; count, measure, and compare them.⁴

This judgment is curious because Rousseau, like most theorists before him, thought that democratic government was most easily gained in small communities. Indeed, his notion of an ideal government was "groups of peasants directing affairs of state under an oak."⁵

¹ Plato, *Laws*, Book V, p. 738, Book VI, p. 771.

² Aristotle, *Politics*, Jowett, trans. (New York: Modern Library, 1943), pp. 286-288.

³ Charles de Montesquieu, *The Spirit of the Laws*, Thomas Nugent, trans. (New York: Hafner, 1949), Vol. II, Book XXIII, pp. 6 and 25.

⁴ Jean-Jacques Rousseau, *Social Contract* (New York: Hafner, 1947), Book III, Chapter IX, p. 75.

⁵ See Jean-Jacques Rousseau, *Considerations on the Government of Poland* in *The Political Writings of Jean-Jacques Rousseau*, C. E. Vaughan ed. (New York: John Wiley, 1962), Vol. II, p. 384.

To put the matter in modern-day terms, decision making was assumed to be more widely shared in small communities. This was grounded in experience as well as logic. Smaller communities would naturally display an equitable balance of authority. Because small communities presented few barriers to control in the form of transportation or communication, the reins of government could fall lightly upon the citizens. By contrast, large states were assumed to fall prey to regimes based on force. "In order to preserve the principles of the established government," Montesquieu wrote, "the state must be supported in the extent it has acquired, and . . . the spirit of this state will alter in proportion as it contracts or extends its limits."⁶

Representative government was specifically put forward as a means of extending democratic forms of government to large, populous communities. Thinkers in the 19th century viewed representative institutions (in James Mill's words) as "the grand discovery of modern times," thus projecting the symbols of government by consent onto the scale of the large nation-state. James Madison even contended that large societies could protect individual freedoms more effectively than small ones, because of the checks and balances inherent in the warfare of contending interests. "Notwithstanding the contrary opinions which have been entertained," Madison wrote,

the larger the society, provided it lie within a practical sphere, the more duly capable it will be of selfgovernment. And happily for the republican cause, the practicable sphere may be carried to a very great extent, by a judicious modification and mixture of the federal principle.⁷

With such an optimistic prescription, it is little wonder that succeeding generations, nurtured on the philosophy of *laissez faire*, came to assume that scale was of little importance in determining the character and quality of political institutions.

The question of the link between political institutions and scale is far from settled, however. We live in a world far different, far more populous and complex, than that which saw the rise of representative assemblies—for example, the 17th-century England of John Locke's "Glorious Revolution," or the 18th-century America of the Constitution-makers. Constituencies that were small and intimate are now large and diverse—miniature countries in themselves. The matters with which representative assemblies must cope have grown in number and complexity, as governmental activity has increased in breadth, depth, and velocity.

Thus we return to the basic question posed by political thinkers from the very beginning. What quality of representation can large countries achieve? Is there a scale beyond which representative assemblies do not function effectively? And, what organizational strategies can be adopted which will preserve the essential quality of representation in an environment of large-scale institutions? What personal qualities should legislators cultivate to function effectively in such an environment? What technologies can be employed to make this task more manageable?

⁶ Montesquieu, *op. cit.*, p. 162.

⁷ James Madison, *Federalist*, p. 1. See also *ibid.*, p. 10.

A. THE GROWING LEGISLATURE

In a growing political system, both legislatures and electoral units expand in size. The trade-off is uneven, because the rate of growth of the one affects the other. The historical growth of the Senate and House of Representatives is shown in Table 1. The Senate's size is, of course, fixed by the number of states regardless of population; in fact, this is the only provision of the Constitution which cannot be altered without the express consent of all the states. Through the 19th century, the House expanded somewhat erratically, with its greatest periods of growth occurring in the first two decades of the Republic and again immediately following the Civil War. Within reasonably foreseeable contingencies, both houses have apparently attained virtually their ultimate size: since 1910, only Alaska and Hawaii have been added, and the House has remained constant at 435 members (with a brief interval at 437 immediately following the admission of Alaska and Hawaii). Adding four delegates and one resident commissioner (who participate in committees and debates but who do not cast votes), this makes 440 Representatives.

Looking at earlier Congresses through modern eyes, one is struck by the relatively small circles of people involved. The House of Representatives, that "impetuous council," was in 1789 composed of all of 65 members—when all of them showed up. The aristocratic Senate boasted only 26 members, two from each of the original 13 states.

Growing size has profoundly affected the work of Congress. Growth compelled the House to develop strong leaders, to rely heavily on its committees, to impose strict limits on floor debate, and to devise elaborate ways of channeling the flow of floor business. It is no accident that strong leaders emerged during the House's rapid growth periods. After the initial growth spurt of the first two decades of the Republic, vigorous leadership appeared in the person of Henry Clay, whose Speakership (1811-1814, 1815-1820, 1823-1825) demonstrated the potential of that office. Similarly, post-Civil War growth was accompanied by an era of strong Speakers lasting from the 1870s until 1910. Size is not the only impetus for strong leadership, but it tends to centralize procedural control.

In the smaller and more intimate Senate, vigorous leadership has been the exception rather than the rule. The relative informality of Senate procedures, not to mention the long-cherished right of unlimited debate, testify to the loose reins of leadership. Compared with the House's elaborate system of rules and its voluminous precedents, the Senate's rules are relatively brief and simple. Informal negotiations among senators interested in a given measure prevail, and debate is typically regulated by unanimous consent agreements suggested by the parties' floor leaders. Although too large for its members to draw their chairs around the fireplace on a chilly winter morning as they used to do in the early years, the Senate retains a clubby atmosphere that the House lacks.

Table 1: Growth in Size of Congress and Its Constituents, 1790-1980 Census

Year of Congress	Congress	Population Base ¹	Number of States	Number of Representatives ²	Apportionment Population Per Representative	Number of Senators	Apportionment Population Per Senator
		(1,000's)					(1,000's)
	1st-2nd	-	13	65	30,000 ³	26	-
1790	3rd-7th	3,616	15	105	84,436	30	121
1800	8th-12th	4,880	16	141	34,609	32	153
1810	13th-17th	6,584	17	181	36,377	34	184
1820	18th-22nd	8,972	21 ⁴	213	42,124	48	190
1830	23rd-27th	11,931	24	240	49,712	48	249
1840	28th-32nd	15,908	26	223	71,338	52	306
1850	33rd-37th	21,767	31	234	93,020	62	351
1860	38th-42nd	29,550	34	241	122,614	68	435
1870	43rd-47th	38,116	37	292	130,533	74	515
1880	48th-52nd	49,371	38	325	151,912	76	650
1890	53rd-57th	61,909	44	356	173,901	88	704
1900	58th-62nd	74,563	45	386	193,167	90	828
1910	63rd-72nd	91,604	48	435	210,583	96	954
1920		-	-	-	-	96	1,101
1930	73rd-77th	122,093	48	435	280,675	96	1,365
1940	78th-82nd	131,006	48	435	301,164	96	1,561
1950	83rd-87th	149,895	48	435	334,587	96	1,786
1960	88th-92nd	178,559	50	435	410,481	100	2,041
1970	93rd-97th	204,053 ⁵	50	435	469,088	100	2,265
1980	98th-102nd	226,505	50	435	520,701	100	-----

¹ Excludes the population of the District of Columbia, the population of outlying areas, the number of Indians not taxed, and (prior to 1870) two-fifths of the slave population.

² Actual number of representatives apportioned at the beginning of the decade.

³ The minimum ratio of population to representatives stated in Article I, Section 2, of the Constitution.

⁴ No apportionment was made after the census of 1820.

⁵ Includes 2,000 in population abroad.

⁶ U.S. Department of Commerce, Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Part 2 (Washington, D.C.: U.S. Government Printing Office, 1975), p. 1084, 1980 Census figures released by U.S. Department of Commerce (December 1, 1980).

In recent decades, Congress has grown not in membership but in added staff structures. The House and Senate employed 6,300 people in 1960; more than 14,000 were employed two decades later.⁸ Including janitors, cooks, police, administrators, printers, and support agency personnel, about 39,000 people worked for the legislative branch in 1981. Numerous factors account for the staff explosion. Among them are the complexity of issues, expanding workloads, competition among committees and members, election of activist members, diffusion of power, constituency services, and legislative-executive conflicts.

This spectacular growth-in number of people and in bricks and mortar-has profoundly altered the operation of Congress as a representative assembly. Whereas once members dealt with each other directly on a daily basis when Congress was in session, they interact today through layers of staff aides and complicated organizational arrangements. Informal relationships have been replaced by extensive rules, procedures, and precedents. In the House of Representatives, it is unlikely that Members know each other well, or even in some cases at all. Close associates tend to be those who are brought together in committees or other workgroups. More and more frequently, Members and staff aides working on a given project are unaware of what others are doing. In short, Congress has shifted perceptibly from a small, unified, corporate body to one that has a bureaucratic character-with all its trappings of size, complexity, specialization, and routinization.

During the Republic's early days, the government at Washington was "at a distance and out of sight."⁹ Lawmaking was a part-time occupation. As President John F. Kennedy was fond of remarking, the Clays, Calhouns, and Websters of the 19th century could afford to devote a whole generation or more to debating and refining the great controversies at hand. During the 1920s, as recalled by Representative Joseph W. Martin, R-Mass., the most pressing issue considered by the Foreign Affairs Committee during one session was a \$20,000 authorization for an international poultry show in Tulsa, Oklahoma.¹⁰

Even in the 1950s, the legislative schedule was quite manageable, as indicated in a summary of a representative's day by Speaker Sam Rayburn:

The average member will come down to the office around eight or eight-thirty. He spends his time with visitors until around ten o'clock, then he goes to a committee meeting, and when the committee adjourns he comes to the House of Representatives, or should, and stays around the House chamber and listens.¹¹

Needless to say, the days of a single morning committee hearing and time to witness the entire floor proceedings in the afternoon are long gone. Conflicting committee sessions and snatches of floor deliberations are now the order of the day.

⁸ John F. Bibby, Thomas E. Mann, and Norman J. Ornstein, *Vital Statistics on Congress*, 1980 (Washington, DC: American Enterprise Institute, 1980), p. 71.

⁹ Madison, Hamilton, and Jay, *The Federalist Papers*, no. 22, p. 166.

¹⁰ Joe Martin, *My First Fifty Years in Politics*, as told to Robert J. Donovan (New York: McGraw-Hill Book Company, 1960), pp. 49-50.

¹¹ Sam Rayburn, *Speak, Mister Speaker*, ed. H. G. Dulaney and Edward Hake Phillips (Bonham, Texas: Sam Rayburn Foundation, 1978), p. 466.

Congress's workload—once limited in scope, small in volume, and simple in content—has grown to staggering proportions. In general, the number of measures introduced and passed has risen, as has the number of committee and subcommittee meetings and the number of hours Congress is in session. By every measure—hours in session, committee meetings, floor votes—the congressional workload has just about doubled in the 20 years between 1957 and 1977.¹²

Legislative business has expanded in scope and complexity as well as sheer volume. Today's Congress copes with many issues that in the past were left to state or local government or were considered entirely outside the purview of governmental activity. One index of congressional committee activity ranges alphabetically from "abandoned automobiles" to "zoos," suggesting the wide variety of issues handled by modern lawmakers. Moreover, legislation tends to be lengthier and more complex than it used to be.¹³ President Carter's 1977 energy package, for example, embraced more than 100 separate bills that were referred to a dozen different committees. The 1981 budget reconciliation bill, by the same token, embraced thousands of specific programmatic changes and engaged the efforts of more than 200 conferees from the two chambers.

The length and complexity of legislation helps explain peculiarities in recent congressional workload statistics. Since 1977, a number of key workload indicators have exhibited downturns rather than steady increases. Numbers of bills, for example, are declining, as are hours in session. It seems plausible that this phenomenon is an artifact of altered content of the workload rather than overall workload level itself. As has already been noted, today's legislation tends to come in omnibus packages rather than piecemeal. This trend toward fewer and bigger packages was underscored in 1981 when the Reagan Administration opted to concentrate on a few key votes, especially in the Democratic-controlled House of Representatives. "The way things have been going," wrote Richard E. Cohen, only partly in jest, "the House and Senate may be moving to the day when Members each year will cast a single vote setting federal policy."¹⁴

Much of today's congressional workload, moreover, lies slightly beneath the surface, in the form of mandated executive reports and other actions subject to legislative approval or veto provisions. The few such issues that reach the House or Senate floor are merely the tip of an iceberg, one that embraces extensive (though largely undocumented) responsibilities of congressional committees.

For most of its history, Congress was a part-time institution. Before World War I, and even after, Congress remained in session only about nine months out of each 24, and the members spent the remainder of their time at home practicing law or attending to private business. In recent decades, legislative business has kept the House and Senate in almost perpetual session—punctuated by dis-

Arthur G. Stevens, Jr., *Indicators of Congressional Workload and Activity* (updated by Sally E. Richardson, Congressional Research Service Report 81-96 (May 1, 1981); JK1052 H).

Allen Schick, "Complex Policymaking in the United States Senate," in *Policy Analysis on Major Issues*, U.S. Congress, Senate Commission on the Operation of the Senate, 94th Congress, 2nd session, 1977, committee print, pp. 5-6.

* Richard E. Cohen, "One Big Roll of the Dice," *National Journal* 14 (March 6, 1982): p. 429.

strict work periods. During the average two-year Congress, the House is in session about 225 eight-hour days. The average senator or representative works an 11-hour day while Congress is in session.¹⁵

Growing size and workload, taken together, place a strain on the operations of any organization. Of course, the organization may respond effectively or not. But such factors can in no way be ignored, for they represent demands imposed upon the institution by the larger environment. In adjusting to these demands, the organization assumes the characteristics normally associated with the concept of "institutionalization."¹⁶ To be specific, an institution responding to intensified demands will develop such attributes as hierarchy of leadership, specialization of functions, routinization of procedures, and professionalization of career patterns. Observers seem to agree that these phenomena loom large in the operations of the present-day Congress.

It would be erroneous to presume that size is the only determinant of complexity in organizations. Other factors—such as the nature of the workload, the relation of the institution to its environment, and the personalities of members—much also be taken into account. However, size is a crucial determinant of the functioning of any organization. In legislatures, the size factor conforms to a fundamental principle of parliamentary procedure: The larger the group, the more formal and structured must be its handling of business. A corollary is that the larger the group, the less equal are the abilities of the participants to influence the group's decisions. Thus, size itself goes a long way in explaining the effects of growth upon a legislature and the variations between large and small legislatures.

B. CONSTITUENCIES AS MOVING TARGETS

Not only has the legislature and its workload expanded; but so have the constituencies from which legislators are chosen and with which they must interact to perform their representative duties. When the first census was taken in 1790, the nation's population was less than four million—smaller than that of an average state today. Today's House members represent as many people as the average senator did a hundred or so years ago.

Electoral units have grown very large. Congressional constituencies—states and districts—are among the most populous electoral units in the world. The mean congressional district now numbers more than half a million people, while the average state has more than four million people. This affects the bonds between citizens and their elected representatives. Whereas old-time legislators spent a great deal of their time in their home districts, working at their normal trade or profession and mingling with townspeople, today's legislators keep in touch by means of frequent whirlwind

¹⁵ U. S. Congress, House, *Committee on Administrative Review, Administrative Reorganization and Legislative Management* (June 11, Dec. 19, 1957, 80th Congress, 1st sess., September 28, 1947), p. 17. U. S. Congress, Senate, *Commission on the Operation of the Senate, Senators, Offices, Ethics, and Procedures* (80th Congress, 2d sess., 1947), committee print, p. xi.

¹⁶ Nelson W. Polsky, *The Institutionalization of the House of Representatives*, *American Political Science Review* 62 (March, 1968), pp. 144-46.

visits, radio and television appearances, press releases, staff contacts, WATS lines, and computerized mass mailings.

Constituency demands now embrace a wide range of functions, including personal appearances in the district, communication through newsletters and electronic media, explaining stands on legislative issues, assisting constituents with problems (so-called "constituency casework"), and corresponding with constituents. Of course, American legislators, especially House members, have always been expected to remain close to their voters. From the very first, representatives reported to their constituents through circularized letters.¹⁷

In an era of limited government, however, there was relatively little constituent errand-running. "It was a pretty nice job that a member of Congress had in those days," recalled Representative Robert Ramspeck, D-Ga., describing the Washington of 1911 when he came to take a staff job:

At that time the government affected the people directly in only a minor way. . . . It was an entirely different job from the job we have to do today. It was primarily a legislative job, as the Constitution intended it to be.¹⁸

In those days, a member's mail was confined mainly to awarding rural mail routes, arranging for Spanish War pensions, sending out free seed, and only occasionally explaining legislation. At most, a single clerk was required to handle correspondence.

This unhurried pace has long since vanished. Reflecting on his forty years on Capitol Hill, Representative Martin remarked on the dramatic upsurge in constituent awareness:

Today the federal government is far more complex, as is every phase of national life. People have to turn to their Representative for aid. I used to think ten letters a day was a big batch; now I get several hundred a day. In earlier times constituents didn't know their Congressmen's views. With better communications, their knowledge has increased along with their expectations of what he must know.¹⁹

Even Martin, who left the House in 1967, would be startled at the volume of constituency business handled by House and Senate offices. In 1980 the House Post Office logged about 150 million pieces of incoming mail—three times the 1970 figure; the Senate logged 35 million.²⁰ Not only are constituents more numerous than ever before, they are better educated and served by faster communication and transportation. Numerous interest groups publicize Members' votes and orchestrate communications to and from Capitol Hill. Public opinion surveys show that voters expect legislators to "bring home the bacon" in terms of federal services and to communicate frequently with the home folks.²¹ There is little reason to suppose that such demands will fade in the future.

Indeed, long-term trends in the character of electorates suggest that representative functions will become more, rather than less, challenging. Because of increasing size, economic complexity, and

¹⁷ Noble Cunningham, Jr., ed., *Circular Letters of Congressmen, 1789-1820*, 3 vols. (Chapel Hill: University of North Carolina Press, 1978).

¹⁸ Quoted in George Galloway, *History of the House of Representatives* (New York: Thomas Y. Crowell, 1961), p. 122.

¹⁹ Martin, *op. cit.*, p. 191.

²⁰ Figures from House and Senate Post Offices.

²¹ Glenn R. Parker and Roger H. Davidson, "Why do Americans Love Their Congressmen So Much More Than Their Congress?" *Legislative Studies Quarterly* 4 (February 1979): pp. 53-61.

educational levels, all constituencies, House as well as Senate, have moved historically toward greater heterogeneity. Well into the twentieth century, it was common to say that senators represented a cotton state or a tobacco state, or an oil state. While powerful interests still shape and sometimes dominate an area, countervailing forces are usually present. It is getting harder to find a segment of the country, even a small one, that contains just a single dominant interest.

The more varied the constituency, the more challenging the elected representative's task is likely to be. Members who come from heterogeneous constituencies must heed a wide range of problems and stand accountable for a large number of issues, rather than just a core of issues. Elected officials from such areas are thus tempted to make symbolic stands on a variety of issues, or alternatively to stress non-issue features of their performance in office—for example, their style, personality, or constituent service.²²

Elected officials try to accommodate these constituency demands by building personal machinery for communicating with constituents and enlisting support. In the past generation, indeed, constituency service and outreach functions have been quantitatively and qualitatively transformed. Responding to perceived demands, senators and representatives have set up veritable cottage industries for communicating with voters, responding to constituents' requests, and even generating those requests through newsletters, targeted mailings, and hot lines.²³ After the mid-1960s staff and office allowances grew markedly, district offices were opened, and congressional schedules arranged to provide "district work periods" or "nonlegislative work periods." This apparatus not only extends legislators' ability to communicate with constituents, but it provides badly needed help for citizens for whom dealing with the federal bureaucracy can be a bewildering experience.

C. COPING WITH THE PROBLEMS OF SCALE

Burgeoning size, scale, and workload confronts today's and tomorrow's legislators with acute problems. One source of trouble is intensifying conflict between legislative and constituency roles, given steeply escalating expectations in both areas. Findings in a 1976-1977 member survey in the House convey the distinct impression that members experience severe strains between these two roles. On the whole, members want to spend more time on legislation than they actually do. Typically, they rate legislative tasks as more important than constituency service. But legislators cannot escape constituency demands, even if they wanted to do so. When asked to compare actual and ideal roles of a member of Congress, fully half of the representatives interviewed in 1977 stated that "constituent demands detract from other functions"—the most frequently mentioned obstacle.²⁴

²² David R. Mayhew, *Congress: The Electoral Connection* (New Haven: Yale University Press, 1974); Morris P. Fiorina, *Congress: Keystone of the Washington Establishment* (New Haven: Yale University Press, 1977).

²³ Robert H. Salisbury and Kenneth A. Shepsle, *Congressional Staff Turnover and the Ties that Bind: Congressmen as Enterprise* (St. Louis: Center for the Study of American Business, Washington University, 1980).

²⁴ U.S. House of Representatives, *Commission on Administration Review, Final Report*, 2 vols., H. Doc. 95-272, 95th Congress, 1st session, December 31, 1977, Vol. 2, p. 875.

Nor are public demands likely to abate. We are fast approaching the day when 90 percent of all adults will have received a secondary education and perhaps 50 percent a postsecondary education. Thus, political activity is likely to remain at a high level or even rise—not the old-style activity of the political party cadres, but dispersive involvement in myriads of specialpurpose groups and causes. These activists will expect their elected representatives to be responsive. In a recent national survey, citizens expressed the most dissatisfaction with legislators' efforts at public education and communication. Nine out of every 10 respondents said that Congress should do more to inform the public about its activities.²⁵

Members of Congress would seem to have three choices for coping with the dilemmas of scale in their jobs. First, they could continue in their present patterns, frantically juggling both their burgeoning legislative and constituent responsibilities. Second, they could enlist technology in their aid, commandeering all the benefits of modern technology to cope with job demands and role conflicts. Finally, Members of Congress can restructure their tasks to moderate and make manageable the demands pressed upon them—by lightening their workloads, delegating key portions of their tasks to others, or restructuring their tasks to make them more manageable.

Needless to say, current work patterns could continue indefinitely. Certainly there is nothing to prevent the extension of present circumstances. Whatever the problems and difficulties, it would seem that individual legislators have performed their duties at least acceptably in the view of their constituents. At the same time that public-opinion surveys reveal unfavorable judgments of Congress's job, they show overall approval of the respondents' own legislators. In one recent survey, citizens gave their own representatives a favorable report card by a three-to-one margin, disapproving of Congress's performance 51 to 32 percent.²⁶

Nonetheless, there is mounting evidence that current responsibilities are taking a human toll among senators and Representatives. One evidence is the unusually large numbers of members that have voluntarily retired from Congress in recent years to seek other jobs. Many of these retirements took place in midcareer, when the legislator could look forward to years of service on Capitol Hill. Comments from many retirees indicate weariness and alienation concerning their jobs. One Member described leaving Congress as "a release from a kind of bondage"; another retired because he was "tired of wasting time on drivel."²⁷ The frequency of such comments suggests that all is not well with the elected legislator's job.

Technology can help Members cope with problems of scale. In fact, today's senators and representatives are already heavy users of technology. Internally, the work of Congress is lubricated by computerized bill-status and informationretrieval systems. Since the advent of televised floor sessions in 1979, Members of the House have been able to follow floor proceedings from their offices.

²⁵ *Ibid.*, A-1, p. 2-3.

²⁶ *The New York Times*, *Editorial*, August 1980.

²⁷ *Am. Capitol Ex. Members of Congress: Some Go Home, Many Don't* (Congressional Quarterly's Weekly Report, September 17, 1979), pp. 1970-1971.

Four out of five Members responding to a 1979 survey claimed that they "often" monitored floor debate on TV while working in their offices. Members follow the course of the arguments and ascertain when they should make their way to the floor—to participate in the debate or to cast their vote. Fifty-seven percent of the survey respondents said they were better informed about legislative issues because of the TV coverage.²⁸ Senate offices lack closed-circuit television but are linked to the floor by audio signals which presumably achieve similar results.

In performing representative functions, Members utilize advanced technology in transportation and communication. The advent of jet planes has placed states and districts closer to Washington-heightening Members' ability to maintain close physical contact with the home folks. Both chambers have authorized increasing numbers of paid trips home each year; and researchers have found, predictably enough, that members have made increasing use of these opportunities.²⁹ Members' offices, moreover, engage in constant outreach activities. Indeed, they resemble the mail distribution division of a substantial business. Every day stacks of printed matter are released for wide distribution. Materials include press releases, newsletters, individual and mass mailings, and programs or tapes for electronic media. With computerized address lists, mailing can be targeted at groupings.³⁰

No doubt greater utilization of technology will help legislators cope with burgeoning responsibilities. More complete computerization of information on Capitol Hill would aid in scheduling and tracking of legislative business. Closed-circuit audio and video coverage of committee sessions as well as floor deliberations would allow Members and staff to keep abreast of legislative developments and allocate their time efficiently. Communications innovations, such as teleconferencing, would enable Members to interact with constituents more effectively.

Finally, legislators will no doubt consider how to restructure their responsibilities to make them more manageable. Regularizing the year-round congressional schedule is one step in this direction. Delegating specific decisions to Executive officials is another. This allows Congress to give broad mandates, often with prescribed mechanisms—congressional approval or veto provisions—to monitor and even participate in the decisions.

More radical restructuring may well be considered. The crucial question, it would seem, is how often, and with what specificity, Congress should intervene in making decisions affecting the conduct of government. We have already commented on the tendency of modern Congresses to aggregate decisions in fewer but larger legislative packages. Another tendency, sometimes at odds with this, is toward greater structuring of the legislative workload. Short-term authorizations mandate more frequent reviews and re-

²⁸ U. S. Congress, House, Committee on House Administration, Report on the Activities of the Committee on House Administration During the 96th Congress, H. Rept. 96-158 (96th Congress, 2nd session, January 2, 1979), pp. 7-12.

²⁹ Glenn R. Parker, Sources of Change in Congressional District Attentiveness, *American Journal of Political Science* 21 (February 1980), pp. 115-124.

³⁰ David Burnham, Congress's Computer Subsidy, *New York Times Magazine*, November 2, 1980, pp. 36-41.

newals of federal agencies and programs. The budget process is in large part a timetable for action in committees and on the floor. Finally, the existence of hundreds of provisions for congressional approval or veto of Executive actions places further burdens on the legislative schedule, with expedited procedures often prescribed for processing such decisions.

These developments have introduced new elements of formality and structure into the congressional workload. Although not well understood by commentators, the advent of what might be called the "institutionalized workload" has heightened the sense that Members have of being driven by fixed timetables and deadlines. One method of coping with this development is to review the legislative workload and reach some hard choices about when, and under what conditions, legislative actions should be taken. Congress might register its preferences more frequently to monitor the course of federal activities in midstream--perhaps using sophisticated electronic systems for registering preferences, priorities, and tradeoffs. Alternatively, Congress could decide to limit itself to less frequent interventions which would necessarily be more generalized in their effects. Either way, the question of structuring the legislative agenda is a central strategy for coping with the dilemmas of scale.

CHAPTER 7. FORECASTING PUBLIC POLICY PROBLEMS: THE ENERGY SHORTAGE

(By John J. Schanz, Jr., Senior Specialist in Energy Resources Policy)

A. INTRODUCTION

The reliability of forecasting is viewed with appropriate skepticism by many individuals. In the field of resources policy, predictions or forecasts have now been replaced by projections and scenarios. Nonetheless, there are physical circumstances which are understood sufficiently to provide expectations upon which policy can be predicated. If a stone is thrown from the top of Washington monument, it is possible to predetermine with reasonable accuracy where it will land, at what speed, and how long it will be in flight. While this expectation could be wrong as the consequence of any unexpected event, it is sufficiently reliable that someone standing in that location would be well advised to move.

Similarly, fifteen years ago it was possible to predict that more than likely the United States would likely find itself by 1981 in an energy situation involving declining domestic production of oil and gas and a heavy reliance on imported oil. Not only was it possible to make such an accurate prediction, it was actually done. Those individuals intimately familiar with the oil and gas exploration and recovery process, M. King Hubbert perhaps being the most widely recognized, were becoming quite certain by 1966 that the U.S. would most likely find itself in a downtrend in oil and gas production in the 1970s. Like the stone thrown from the monument, this pathway was built on a firm foundation of physical reality coupled with other specified circumstances relating to the behavior of exploration activity, the real price of oil and gas versus other energy forms, and the likely progress of technology. Thus, we should not be too surprised that M. King Hubbert and friends can now accept well-deserved accolades for having portrayed the current decline in U.S. oil and gas production. Recognizing the massive U.S. capital investment in facilities designed to consume fluid hydrocarbons it was also logical to anticipate that the U.S. would have to turn simultaneously to foreign supplies to make up the short-fall in these essential forms of energy.

If these events were so certain, why weren't the projections of the oil and gas experts acknowledged more broadly before the fact rather than after? More importantly was the policy posture of the U.S. between 1965 and 1975 reflective of these expectations?

B. THE PHYSICAL REALITY OF RESOURCE DEPLETION

In the 1929 Transactions of the AIME, D.F. Hewett of the U.S. Geological Survey described the cycles of mineral production by a

series of bell-shaped curves of growth followed by decline to depletion. This behavioral pattern was familiar to all members of the mining fraternity. If such a configuration was applied to the exploitation of a given particular resource base, for instance the United Kingdom with its small-size and limited resource endowment, the mineral experts anticipated that Britain would lose its original leadership among the industrialized nations. More specifically, the U.K.'s original fortuitous combination of indigenous iron ore, coal, technical skills, and enterprise would have to give way to a need to import raw materials while exporting goods, capital, and services.

The general application of depletion curves in this fashion has been quite popular over the years. In the early 1950s, Samuel Lasky, also of the U.S.G.S., examined the possible peaking and decline of various U.S. mineral resources in an article in the *Engineering and Mining Journal*.¹ Ayres and Scarlott followed a similar vein of thought about energy in their 1952 book.²

In 1962, M. King Hubbert, who worked for both a major oil company and the U.S.G.S. during his career, as part of a series of studies being made by the National Academy of Sciences, examined the likely magnitude and timing of the peak of U.S. oil production given the ultimate quantity of oil and gas expected to be found and recovered. Knowing the quantity already produced, and demonstrating that the peak and the date of that event were rather insensitive to rather large changes in the quantity of oil resources left to exploit, he presented a convincing argument that U.S. oil production would almost certainly begin to decline before the end of the century. Using the resource estimates available in 1962, he showed that the peak was likely to be in the vicinity of 1970.³

Dr. Hubbert has continued to refine his methodology and projections until the present time. In his subsequent work he has delved carefully into the pattern and timing of rates of production, discovery, and proved reserve additions. This has confirmed that a decline in the discovery rate will be observed approximately 10 years in advance of a production rate drop. Since exploration was already beginning to decline in the U.S. in 1962, as was the quantity of oil found per unit of effort, a U.S. peak of oil production by 1970 seemed preordained. Moreover, oil's companion - natural gas - was not likely to be far behind. The exploration process takes times, as does the cycle of exploitation which cannot begin until something has been found. So for policy purposes in 1965 we were almost assuredly going to face a period of at least one decade or more of declining oil production.

In explaining to an audience how oil development occurs Dr. Hubbert suggest that for a given region of the earth oil reservoirs can be thought of as resembling various sized fish in a barrel. His simile is perhaps improved if the barrel is located in a darkened room. One can poke a spear in the barrel and after one or two tries will likely catch a fish, and it is probable that a large one will be

¹ Lasky, S.G. Mineral Industry Futures Can Be Predicted, *Engineering and Mining Journal*, August 1951, Vol. 131, pp. 99-104.

² Ayres, R. and Scarlott, G.A. *Energy Sources: The Wealth of the World*. McGraw-Hill Book Company, 1952, p. 222.

³ Hubbert, M.K. *Energy Resources: A Report to the Committee on National Academy of Sciences*. NRC Publication 1000 D, 1962.

speared rather than a small one. In the darkness, the exact size of the fish caught may not be certain at first. But once removed and cooked, the catch may provide more than was needed immediately, delaying the necessity for spearing an additional fish. However, as consumption progresses, spearing additional fish eventually requires more and more stabs into the barrel, and the fish tend to become smaller with each catch. Finally, the effort becomes too great to be worthwhile, and fishing ceases even at the expense of leaving some small fish behind. Obviously, at this point, a new barrel of fish needs to be found or a sharp change in diet will be in order.

This was, and remains, the situation in U.S. oil. Our well-developed previously discovered petroleum regions now provide only opportunities to catch small reservoirs. The yield is still consumable but costly, and a lot of catches would be needed to satisfy our annual appetite from domestic sources alone. Unfortunately, we have not dramatically improved our technique for capturing and exploiting our remaining oil resources, so production technology has provided minimal relief. Finally, the number of undiscovered or recently discovered oil regions left to develop are very limited. Higher prices make it worthwhile to continue to go after the remaining small "fish" in our resources "barrel", but, in the absence of several new regions to explore or a drastic and unexpected alteration in technology, we seem locked into the Hubbert decline curve.

It is possible to buy a little time by producing what we have already found more rapidly - increasing our production by several percentage points at the expense of exhausting our oil and gas several years sooner. But this does not provide an attractive or enduring escape route. Petroleum reservoir fluids flow in response to the pressures found in the rock containing them. In practice, this means that we can provide an annual flow of approximately one barrel for each eight barrels remaining in the reservoir. You can use this available fluid pressure to increase production for a short interval, which we did as an emergency measure in World War II, but before too long national output will eventually return to a constant percentage decline each year if additional oil is not found. Thus a new barrel must be found each year to replace each barrel produced, not so much for that barrel itself, but to provide an ability to maintain an even flow of annual production. If production is to be increased over time, then on the average more than one barrel must be found per barrel produced to increase the annual output in future years.

C THE U.S. POLICY RESPONSE

This fundamental knowledge about our physically-constrained oil and gas resource situation has been readily available to every President and Congress since the election of President Kennedy. How important was this bit of intelligence in energy planning? A recent Brookings Institution study of energy policy since World War II has nicely encapsulated the focus of attention of each Presi-

dency with respect to oil and gas.⁴ In their review of the record since 1960, starting with the Kennedy administration, we find that energy issues did not command a high priority until quite recently. Rather one detects what appears to be an underlying faith that technology, particularly involving the initial confidence in the future of nuclear power, would provide the long term energy resource solution. What specific attention was directed toward energy tended to involve such matters as protecting domestic oil from cheap foreign sources or concerns about prices and social welfare. A struggle carried over from the Eisenhower era concerning the regulation of natural gas at the well head continued unabated. Many U.S. oil producers, turning to the Hubbert simile again, were attracted to fishing in foreign barrels in recognition of the reality that most of the domestic fish were now small and costly. The likelihood that the oil market would offer a sufficiently high price to make these resources attractive for development seemed slim.

The debate over cheap imports versus expensive domestic production carried on into the Johnson administration. The domestic surplus capacity insulated the U.S. from fear of embargoes or a decline in imports. Despite Hubbert's projections two years previously, it was suggested in 1964 that total energy resources would be adequate for this century at or near current costs. Nuclear continued to be a White House favorite for the future, but it was beginning to be acknowledged that lead times would be quite long. It was still common to see expanding wedges of nuclear power shown in most energy forecasts. Other than taking this long view about nuclear power, the Johnson administrative staff seemed to be more concerned about responding to various contemporary short-term pressures. Among these was the seemingly perpetual argument over whether or not state prorationing was a proper means for dealing with the downward pressure on price created by a domestic excess of oil producing capacity.

By the beginning of Nixon regime, somewhat greater sensitivity was appearing to the negative effect of regulation on domestic supply. But it proved extremely difficult to redirect policy to respond to this concern. For many, deregulation could be equated with higher prices, while a fair and competitive price was viewed as being synonymous with experiencing low prices. Despite a long U.S. history of stable or even declining real prices for domestic crude oil and products and natural gas, there were those who suspected that the continuing decline in new discoveries of domestic oil was merely symptomatic of a government-protected industry that was inclined toward seeking Federal assistance as a means of achieving higher profits rather than exploring for oil and gas.

The Nixon administration saw environmental policies and procedures come into full bloom as a new national priority. Initially this popular endeavor was served through encouraging greater use of "clean" oil and gas rather than less. Despite a well-entrenched federal policy to protect the domestic oil and gas industry from too low prices at the well, there was also a concurrent, more subtle, policy which relied on imports of foreign oil to protect the U.S. con-

⁴ *Energy Policy in Perspective: Today's Problems, Yesterday's Solutions*. Edited by Goodwin, D.C. Brookings Institution, 1967, pp. 2-7, 600.

sumer by keeping oil product prices from going too high. While recognition grew that the most likely U.S. energy future would see a decline in oil and production if business-as-usual continued, the Nixon staff could not seem to direct attention to this fact or to achieve a concrete response to this longrun projection. Short-term crises continued to dominate.

During most of the 1970s, many economists contributing to Government-funded private, non-industry studies kept pointing to the obvious supply demand inconsistency of the policies that were keeping oil and gas prices low. This could not help but assure that the Hubbert projection would come to pass on the supply side, as well as further aggravating the situation by simultaneously expanding the demand for oil and gas. Despite their urgings for a higher price, to adopt such a strategy was viewed by many as simply playing into the hands of the oil producing industry. U.S. energy consumption continued its rapid expansion and the surplus of oil and gas productive capacity was finally a thing of the past. The scene was set for the appearance of OPEC as a major force.

It should be noted that during this critical period in domestic oil and gas production Administrations were changing with great frequency. In two decades there were five Presidents, each one moving into the White House accompanied by a new staff learning once again the complexities of energy. While there was experience to be found within the bureaucracy of the executive agencies, it did not effectively compensate for this changing situation at the top. Moreover, energy responsibilities were fractured among many agencies, none of which tended to be involved in the long-term view. In addition, most Government offices were identified with individual types of energy, creating a truncated view of energy policy.

Outside advice was frequently sought by the Government, and economists continued to be involved. These individuals tended to be knowledgeable about fundamental economic behavior but less sophisticated about the response mechanisms that were at work in the oil and gas supply system. To compound their problem, new economic hurdles had appeared. How do we determine the true replacement price of oil and gas? How do we internalize environmental costs? How does one analyze energy markets given the artificiality of a world oil price which reflects the machinations of OPEC? Even when the Government seemed persuaded to attempt to stimulate the oil and gas exploration process, there was the new, frequently tortuous process of the environmental impact statement and the public lands permit system. Since no one could provide compelling evidence that a higher price would really turn around the domestic oil and gas supply picture, given sufficient time, not much momentum seem to be generated to test the remaining oil and gas resource potential of the U.S. This situation prevailed despite the fact that Nixon's advisers were stating that half of U.S. oil needs would be imported by 1980.

The Ford period was for the most part a continuation of the Nixon programs. Efforts were made to disengage the U.S. from two decades of regulation of natural gas prices at the well-head, as well as the petroleum price regulations left over from the early 1970s. The nation seemed to be less enchanted with coal and nuclear as

long term energy solutions, and Project Independence was acknowledged to be a false trail. The renewed effort to deregulate as a way to stimulate domestic production of oil and gas while dampening consumption, prompted sharp clashes over the disposition of the greater profits to be gathered in by the producer. Doubt still existed on whether these measures would really help supply and prompted predictable concern for the consumer. After much agonizing, a crude oil deregulation act was finally passed in 1975 and a natural gas act in 1978, both on a phase-out basis spread over a number of years. Petroleum products were finally deregulated by President Reagan in 1981. A windfall profit tax was adopted to prevent domestic oil producers from benefiting too magnificently from selling oil at a world price which reflecting decisions made by OPEC.

D. THE UNDERLYING DIFFICULTIES

While Hubbert provided a perceptive portrayal of what was most likely to occur in oil and gas production, it is important to realize that his work did not stand alone as the "true" picture. There were numerous other reports providing reserves data, ultimate recoverable estimates, and resource endowment appraisals. Each of these presented the oil and gas hydrocarbon resources of the United States in various ways with different definitions, assumptions, and purposes. For example, some were resource availability estimates involving no time, cost, or technology constraints. Anyone who wished to do so could draw upon a variety of "objective and authoritative" sources of oil and gas reserves and resource data or projections. Given the array of data and interpretation available, almost any inference desired could be made. An optimum rational policy did not automatically flow from the resources data base, but rather those who had a specific energy future in mind could pick and choose the information set they needed to support their case.

It appears that for the most of the period from 1965 to 1980, the longer-term need to be concerned about domestic oil and gas production tended to run at cross-purposes with other more immediate problems of the nation. It is well recognized how difficult it is to pry Government away from the pressures of the moment. Also, participants in the policy-making process may not necessarily differentiate between past conditions and future needs. It appears that much of the action and inaction of the 1965 to 1980 era was a reflection of a Government continuing to view the behavior and problems relating to the U.S. oil industry in the context of the 1945 to 1960 era rather than what the industry would be like in the future. Today recognition may be emerging that the oil and gas policy posture of the U.S. appropriate to 1981 should have a diminishingly linked relationship to the adversarial debates and positions established two decades ago.

Thus we now inherit the consequences of having so many who did not, and a few who still may not, seem to understand the physical occurrence, discovery, and recovery of oil and gas. There are those who are inclined to view it as similar to manufacturing, to be turned on and off at will. There are those who understand the situation; but, they may be concerned with achieving other policy

goals, or are not really convinced that our domestic oil and gas capability really matters that much. Even among the producer interests, if you are fishing in the international resource "barrel" or primarily in the domestic resource "barrel", your policy preferences will reflect your own status. The former will view any quest for greater domestic stimuli in the context of world oil and gas supply, while the latter will seek to convince people that domestic oil is there to be found when government provides incentives rather than disincentives.

Perhaps most difficult to assess has been a long standing public mistrust of the oil industry - which tends to father actions designed primarily to make sure that consumers are not being victimized rather than necessarily seeking optimum resource development. In contrast to this element of suspicion, there are those who have an abiding faith that when things get really difficult, government, technology, or both, will ride to the rescue. While not necessarily responsible for our apparent misreading of past oil and gas projections, many economists have been perhaps too reassuring with their overly simplistic impressions of higher prices causing additional oil supplies to flow almost instantaneously from a virtually bottomless stock of oil.

In viewing this chronology, there is another aspect of these events which is difficult to substantiate but extremely revealing if true. The early audiences of Dr. Hubbert, or his colleagues, were more than likely drawn from the technical and industrial community. Most of them no doubt understood the basis of his message, but did not necessarily accepting it so long as there was yet time to change the course of events. When the Hubbert thesis finally achieved broader credibility and visibility, it was no longer possible to alter to any significant degree the course of U.S. oil and gas production in the relatively near term. Unfortunately for the U.S. energy supply posture, the optimistic nuclear outlook which was accepted early was later proved faulty. It had been built to a significant degree upon supposition, unlike the reality of the oil and gas data.

There is a seemingly endless parade of Washington conferences, plus the vast literature of our nation, all filled with involved people attempting to communicate. But much of this involves exchanges among those similarly persuaded. This triggers a somber realization that the appropriate decisionmakers, and those they depend upon, are not necessarily listening and accepting information and analysis at that point in time which may subsequently prove to have been the crucial moment for the issue in question. This does not suggest that Federal officials and lawmakers are incompetent; rather that there is an overwhelming diversity of problems surrounded by a vast flow of frequently indiscriminate information. When the issues are both complex and technical, as they have been in energy, one can anticipate that the decision process may fall short of what a post-mortem shows might have been better. Recognition of this state of affairs does not suggest acceptance, nor does it necessarily imply that the process is beyond improvement. Somehow the body politic needs to be assisted in steering along a policy course that reflects a simultaneous awareness of

what can be seen in the rear-view mirror, the red light at the next corner, and a truck stalled in the middle of the road a block away.

CHAPTER 8. FORECASTING PUBLIC POLICY PROBLEMS: IMPORT LIMITATIONS

(By Alvin Kaufman, Senior Specialist in Mineral and Regulatory Economics)

A. INTRODUCTION

As imports of petroleum have increased dramatically, various suggestions have surfaced regarding the control of this source of oil. Many of these proposals involve import limitations. Such measures are of long standing and break down into 2 phases, the mandatory oil import program (MOIP) and the entitlements program. The MOIP was an effort to protect the higher cost domestic petroleum and coal industries from the competition of lower cost imported oil. The entitlements program, on the other hand, was instituted as an effort to spread the costs of high cost oil imports throughout the country. In point of fact, the entitlements program may well have encouraged imports rather than discouraged these, by making the cost of imported oil appear lower in cost than it actually was.

In any case, there is an old adage that holds that history repeats itself. Like most such statements there is enough truth in it to make it worthwhile to review the lessons learned in the past. To this end, this section will review the history of the MOIP, the problems and institutional hangups that accrued, and the applicable lessons that should have been learned.

B. HISTORY AND BACKGROUND

The oil import control program had its genesis in various voluntary programs instituted prior to 1959. These included efforts to convince importers of the need to restrict the flow of oil in order to protect national security. That is, low-cost imported oil had increased from 16.6 percent of domestic production in 1954 to close to 20 percent in 1956.¹ As a consequence, domestic producers of both oil and coal were feeling the sting of competition. This was emphasized by the closure of the Suez Canal in 1956, highlighting the fragility of supply lines based in the Middle East. Suez, however, simply meant 2 months of increased domestic output, drawdown of excess stocks, and a stabilization of petroleum prices.² Despite this minor impact, impetus was given to import control. The push toward such limits resulted from the need to balance diverse forces such as protection of the domestic industry, possible increases in oil cost to the consumer due to reduced imports, and minimizing injury to oil importers. As a result of this political balancing act, a formal voluntary program was instituted in 1957. Of the 22 known

¹ Bohi, Douglas R. & Milton Russell. *Limiting Oil Imports, An Economic History & Analysis*. The Johns Hopkins University Press for Resources For The Future. Baltimore, Md. 1978, p. 33.

² Bohi & Russell, p. 40.

importers, 14 initially agreed to follow the program, one refused, and the remainder requested various adjustments in procedures or quotas. As time went on and importers found themselves sacrificing their self-interest for the benefit of the domestic producer with the only quid-pro-quo the avoidance of mandatory controls, compliance steadily declined. Smaller importers widely flouted the limits while the larger, oldline companies tended to tow the line. As the compliance problem worsened, the Administration went through a variety of exercises in an effort to salvage the voluntary program. Finally, on March 10, 1959 a mandatory program was substituted for the voluntary, effective on April 1.³ The MOIP established 3 geographic areas. These were the West Coast states (District V) assumed to require imports, the area east of the Rockies (Districts I-IV) assumed to have substantial excess capacity, and Puerto Rico. In District V, allowable crude imports were to be the difference between demand and supply; finished products were limited to the 1957 level of imports; unfinished oils were not to exceed 10 percent of allowed crude and unfinished oil imports. The finished and unfinished oil limits also applied in Districts I-IV, but all imports, except residual oil, was set at approximately 9 percent of total demand.⁴ Residual oil imports were initially set at 1957 levels, but were to be adjusted as necessary. Imports into Puerto Rico of all petroleum was set at 1958 levels, subject to the discretion of the Secretary of the Interior. Within these goals the Secretary was to set quotas based on refinery inputs. All refiners, importers or not, were included. Quotas could be traded for domestic oil by those receiving them, but could not be sold. A lively exchange market developed in which no oil actually changed hands, but some of the benefits of low-cost imported oil was transferred to inland refiners. The amount of the benefit transferred depended on the exchange ratio set between imported and domestic oil.

An Oil Import Appeal Board was established to provide relief for those suffering from hardship, error, or requiring special considerations. Any increase in quota ordered by the Board was to be balanced by a decrease elsewhere.

The rationale for this program was based on the need for future excess capacity to cover the requirements of the U.S. and its allies in the event of an import cut-off. This need was determined based on studies of various degrees of sophistication. To this national security goal were added, at various times, the need to build effective Western Hemisphere trading partners, balance of payments considerations, and protection of smaller independent producers, among others. The program was subsequently modified from one designed to maintain capacity to one with broader aims all undertaken under the national security umbrella. These broader goals included the special treatment of Mexican and Canadian oil, residual oil import policy, special quotas for petrochemical producers, and special treatment for refineries located in U.S. Caribbean possessions in order to encourage economic development. As a consequence, the program was more of an effort to arrive at political equity than an exercise in the application of foresight.

³ Executive Order 3279, Federal Register, March 12, 1959, Vol. 24, p. 1781-84.

⁴ Eventually changed to 12.2 percent of domestic production.

As U.S. oil producing capacity declined, and OPEC became a strong cartel, the MOIP was suspended and replaced by a fee on imports in excess of the former quota.⁵

In summary, the program began in 1959 with imports at less than 10 percent of demand, extensive excess domestic capacity, world oil prices much below domestic prices, and rapidly rising imports. It ended in 1973 with imports at close to one-third of demand, virtually no excess capacity, world oil prices above domestic levels, and rapidly rising imports.⁶

C. INSTITUTIONS AND PROBLEMS

The import restriction program was an integral part of the production control mechanism established under the sponsorship of the Federal Government. Following the domestic oil "glut" of the early 1930's, the states organized the Interstate Oil Compact as a means of fostering conservation and mitigating the failure to unitize oil fields. In practice the Compact permitted coordination of production levels in line with demand, while each state established allowable production from each well, and the number of days a well could produce in a given month. This regulatory apparatus was enhanced by the Connolly Hot Oil Act which made it illegal to move oil across state lines if produced in contravention of prorationing rules. This production allocation system, however, was beginning to unravel by the early 1950's because of the availability of low cost oil from abroad. As a consequence, the control of imported oil was imperative if the oil industry was to be saved from the rigors of the competitive market.

The desire for control was predicated on the assumption the U.S. faced a possible repetition of World War II. In that event, long oceanic oil supply lines would be subject to disruption with consequent economic chaos. To avoid this possibility domestic capacity had to be maintained, and dependence on oil imports minimized. The MOIP was instituted as a way of accomplishing these goals by keeping domestic prices up and supporting the Oil Compact. Wells would produce at less than their maximum efficient rate with the excess capacity available in the event of a war. Overland shipments of Mexican and Canadian oil need not be included since there was no risk of lost tankers.

This economically irrational system resulted in rational, albeit inefficient, responses from oil companies, as well as pressure for accommodation of special interests. Among the responses were the "Brownsville Shuffle" and the "Northern Tier Dip". In the case of the Shuffle, tankers docked in Brownsville, Texas and unloaded Mexican oil into trucks under bond. The trucks drove into Mexico, turned around, and returned to the U.S. The oil then became exempt from the quota because it legally entered the U.S. overland. It was then reloaded onto ships and sent off to U.S. refineries for processing.

The "Northern Tier Dip", on the other hand, resulted from a procedural error. Canadian oil was exempted from the import

⁵ "Proclamation 4210". Federal Register, April 19, 1973. Vol. 38, p. 9645.

⁶ Bohi & Russell, p. 85.

ticket system, but the number of tickets available to the 5 northern tier refineries importing this oil was not reduced. As a consequence, these 5, located in Minnesota, Wisconsin and Michigan, were able to import Canadian oil and also "exchange" their excess import tickets. Subsequent efforts to eliminate the double dip were unsuccessful.

The protection of Western Canadian imports resulted in a subsidy for Canadian producers. Alberta oil was sold at the U.S. price (approximately \$3) in California and the Northern Tier states. Imported oil was selling for approximately \$2 per barrel in the Canadian provinces of Quebec and Ontario. Had there been no MOIP, the U.S. domestic price would also have been \$2, and Canadian oil would not have collected a premium price.

In addition, the MOIP had a strong small refiner bias. These processors received a disproportionately large share of the import tickets based on a sliding scale skewed so that the smaller refiners received a proportionately larger number of tickets. During a typical year, large refiners received tickets equal to about 7 percent of their crude runs; refiners running 10,000 barrels a day or less received tickets roughly equal to 20 percent of runs.⁷ Since tickets were distributed to all refiners regardless of their need to import crude, import-dependent refiners, in effect, had to purchase tickets from domestic crude refiners. As noted earlier this was accomplished through the nominal exchange of crude. The price differential between foreign and domestic crudes, as reflected in the oil exchange ratio, was the market value of a ticket. Since small refiners received proportionately more tickets than large refiners, a tacit subsidy was created. The amount of the MOIP subsidy varied over time, and was dependent on the number of additional tickets allocated by the Department of Interior. These varied from year to year. Allocations to small refiners also varied, presumably in response to estimated subsidy needs. Ticket value fluctuated as a function of the number of available tickets and the price gap between domestic and foreign oil.

The major legacy of the MOIP small refiner bias was to encourage construction of small, inefficient units. This was compounded when the small refiner bias was perpetuated in the entitlements program that succeeded MOIP.

Small refiners were not the only group to receive benefits from the MOIP. Puerto Rico and the Virgin Islands also received special treatment. Originally, because Puerto Rican refineries were dependent on Venezuelan crude, these units were not limited by the quota. Subsequently, in order to minimize Puerto Rican competition with the mainland, the island was permitted to import as much as was necessary for insular use or for export other than to Districts I-IV. The latter shipments were limited.

Eventually, exemptions from the import quota were used to encourage industrial development in the islands. For example, exemptions were granted Phillips Petroleum Co. in 1966 to encourage construction of a \$100 million refinery complex in Puerto Rico. A year later, Amerada Hess Oil Corp. agreed to invest \$100 m in a

⁷ "Background on the Small Refiner's Bias" in DOE Entitlements Program. House Comm. on Interstate and Foreign Commerce, Subcom. on Energy and Power. Serial No. 95-144, p. 13-14.

refinery and to pay the Virgin Islands government approximately \$2.7 m annually in lieu of most taxes. In return the Corporation received permission to ship 15,000 barrels of product per day to the U.S. mainland.

Finally, in 1969 a cabinet task force was created by the new Administration with the mission of reevaluating the import program. The report dealt with the impact of quota's on prices, production, imports and national security; discussed national security in the import control context; and presented recommendations.⁸

This report, one of the more complete and sophisticated investigations, concluded the import program was not able to deal with present and future security requirements. A phased-in tariff system was recommended as an alternative. The availability of the study prompted a large number of rebuttals, primarily from oil producing sources. Some of these were based on detailed studies and analyses. After a series of Congressional hearings, protests, etc., the Administration decided not to accept the Task Force recommendation, but to stay with a modified import quota system.

In retrospect, it is interesting to note the Task Force forecasts overestimated the availability of Western Hemisphere crude including the U.S., and underestimated the OPEC ability to restrict oil supply and set world prices.⁹ Thus, this very sophisticated study reached a questionable recommendation based on what proved to be incorrect forecasts. This should provide a cautionary note in using forecasts as the basis for policy.

D. LESSONS LEARNED¹⁰

The MOIP went into effect at a time when U.S. oil prices were higher than world prices, overseas oil was plentiful, and domestic producers had substantial excess capacity. As a consequence, the program maintained domestic prices and permitted U.S. production to expand as demand grew. At the same time, MOIP restricted imports. If instituted under current conditions (high world prices, limited domestic supply) import controls would cause higher prices or require some form of rationing. Within the context of the circumstances under which MOIP was instituted, it can be considered politically sophisticated. It limited imports, its costs were hidden and spread widely, and its benefits to special interests were large but not very visible. Some estimates indicate imports would have reached 60 percent of consumption by 1970 compared with the actual 16 percent. Consumers, however, may have paid \$6 billion more than world prices justified. By the same token, however, not all of the subsidized capacity would have been lost under free market conditions. A number of wells would have been shut-in. As a result, as prices turned upward in the mid 1970s, this stand-by capacity could have been brought on stream as increased domestic output, reducing import dependence.

⁸ Cabinet Task Force on Oil Import Control. The Oil Import Question. Washington, Government Printing Office, 1970.

⁹ Bohi and Russell, p. 203

¹⁰ Bohi, Douglas R. "Tariffs Versus Quotas On Oil Imports". Chapter in Oil Import Restrictions - Alternatives and Economic Impacts. CRS Report No. 80-87S. April 18, 1980. p. VIII 2 to VIII-23.

The MOIP partly replaced the operation of the market with political decision-making. As a result, non-economic considerations and values become more important than economic efficiency. As energy becomes a political issue, energy prices are determined on a political basis and are often at variance from the underlying economic realities. Unforeseen consequences often follow. In the case of the import program there was the Brownsville Shuffle, the Northern Tier Dip and minimal refinery investment. Refinery construction was discouraged since investors could not count on additional domestic crude and were prevented from using imported oil; refineries were not modified to handle the high sulfur crudes available outside the U.S. Those refineries that were built tended to be small and inefficient in order to take advantage of the small refiner bias in the program. Further, rules were modified to take care of various special interests such as petrochemical firms, Puerto Rico and the Virgin Islands, utilities, etc. These all tended to bias the system accentuating the possibility of unforeseen impacts.

Finally, such programs create their own groups of special interests who will oppose change or elimination of the program unless provision is made for continuation of their special benefit. As a result, policy flexibility is reduced and barriers to rational choices may be created. For example, small refineries and some in the Caribbean and along the border with Canada were economically viable only because of the quota program. As a consequence, the subsequent entitlements program provided the same relative subsidies to the same groups.

Essentially, it appears that when the government attempts to supplant the market with political decisions, it may accomplish its specific program goals but may introduce a web of consequences, many of which are unforeseen, and create a host of special interests. The result is rigidity in future policy.

CHAPTER 9. FORECASTING PUBLIC POLICY PROBLEMS: AMTRAK

(By Kenneth R. DeJarnette, Specialist in Transportation, Economics Division)

A. INTRODUCTION

The fact that policy-makers occasionally make what eventually appear to be wrong decisions often is attributed to a failure to ask the "right" questions. Sometimes, this is the case. Then again, sometimes they simply make the wrong assumptions, if any, about the future. More often, however, it appears that the problem is one of dismissing the "right" answers and rationalizing the "wrong" ones. This was apparently the case when policy-makers decided to create Amtrak on the basis of its soon becoming a profit-making enterprise. Confusion also arises from the failure of critics of policy to distinguish between institutional decisions made for non-economic "policy" reasons and those made almost solely on the basis of sound economic principles and rational expectations.

Decisions in public policy are made on the basis of inputs peculiar to the political process, many of which may or may not enter into the decisionmaking processes of most businesses or individuals. Sound economic principles may or may not be a major input in public policy decision, but almost always are the overriding input in business policy decisions, and a major input in many "policy decisions" of most individuals. Private businesses live or die on the basis of the ability of their managements to make sound economic policy decisions that maximize profitability, but public institutions most often do not. Indeed, economic "profitability" is rarely the purpose of Government programs; they are broadly understood to have different goals—social equity, national security, infrastructure creation, and so forth: functions considered by many to be ill-suited in some respects or counter to, a purely market approach. The AMTRAK legislation, though stemming from a congressional intent to minimize hardship on a large number of transportation dependent persons and communities, was a decision with major economic components.

B. BACKGROUND

The Rail Passenger Service Act (45 U.S.C. 501) became law in October 1970. It was enacted in the belief that by removing the passenger burden from the essentially freight-carrying railroad system and putting the responsibility in the hands of an entity whose people truly cared about providing passenger service, a revitalization of profitable passenger train service eventually would result. Accordingly, the National Railroad Passenger Corporation, known

from its inception as Amtrak, was created and began operations on May 1, 1971.

Startup funding for Amtrak was achieved through a combination of Federal financing and payments into the corporation by the railroads whose passenger burdens Amtrak assumed. The private railroads giving up their passenger business had the option of taking a tax write-off or stock in Amtrak in return for certain contractual obligations to provide the necessary facilities and equipment to permit Amtrak to operate over their lines. In essence, four railroads agreed to the stock offer and the rest decided on the tax write-off. Two railroad systems, the Southern and the Denver & Rio Grande Western, elected initially to continue passenger service on their own. (The Southern has since turned its passenger operations over to Amtrak. The Denver & Rio Grande Western still operates its Rio Grande Zephyr between Denver and Salt Lake City three times weekly in each direction. Primarily it is a tourist excursion train.) The four railroads agreeing to the stock offer were the Burlington Northern, the Grand Trunk Western (a subsidiary of the Canadian National) the Milwaukee, and the trustees of the Penn Central. Total par value of the stock was \$94 million. These four companies are still the common stockholders of Amtrak.

For its part, the Federal Government authorized, for 1971, \$40 million in operating expenses and \$100 million in loan guarantees for capital acquisitions. By the end of fiscal year 1980, total Federal commitments to Amtrak had reached about \$6.6 billion in operating subsidies and capital acquisitions, and any hope of its ever becoming a self-sustaining enterprise had long since been abandoned by most knowledgeable observers. Still, the Government considers Amtrak to be a private corporation, (our Canadian neighbors would classify it as a "Crown Corporation" if it were in Canada, one presumes), even though Amtrak's board of directors, its route structure, its policies, and its accountability procedures are all controlled by the Federal Government.

In 1976, Amtrak was authorized to purchase the main line rail properties between Washington and Boston from the Consolidated Rail Corporation (Conrail)—another heavily subsidized, "for-profit" railroad. Known as the Northeast Corridor, this (approximately) 456 miles of right-of-way was to be sold to Amtrak for \$120 million, of which \$86 million has so far been appropriated. The purpose of the transfer was to have Amtrak develop high speed passenger service in the corridor by upgrading the infrastructure and operations and to that end, about \$2.5 billion in total has been authorized for the Northeast Corridor, of which about \$1.5 billion had been appropriated through fiscal year 1980. In addition to the funds for the Northeast Corridor purchase and improvement, Amtrak has received about \$3.4 billion in operating grants, \$686 million in capital grants for purchase and upgrading of equipment, and about \$900 million in loan guarantees, over its ten year life.

C. INSTITUTIONAL PROBLEMS

There appear to be at least two institutionally related problems involving Amtrak. The largest problem stems from the apparent acceptance by Congress of the original hypothesis that a national

rail passenger service network could ever be financially self-sustaining under any set of conditions likely to come about. The second problem stems from the inability of Amtrak to rationalize its functions on a purely economic basis by adjusting fare levels to maximize profits on each route, and by eliminating those routes on which it incurs the greatest losses, thereby reducing the total amount of subsidy required. Both of these problems arise from the original conception that the enterprise was to become financially self-sustaining, but the second problem is exacerbated by the lack of flexibility within which Amtrak's management personnel must function. The overall responsibility for preserving and promoting passenger service was divided between the Department of Transportation, The Interstate Commerce Commission, and Congress, leaving Amtrak's management with regulatory and political parameters that were too rigid to permit maximization of efficiencies and economies. An attempt was made to alleviate some of these rigidities with the passage of the Amtrak Improvement Act of 1975 (P.L. 94-25; May 26, 1975), but the deficits have continued to rise steadily nonetheless.

Under the fiscal year 1982, budget revisions proposed by the Administration, Amtrak would have been constrained by guidelines which probably would have forced it to discontinue most trains outside the Boston-Washington Corridor—those unable to contribute enough net revenue to allow the company to recover at least 50 percent of total costs (excluding capital costs) from fares and local subsidies. At the present time, Amtrak recovers about one-third of its total costs, including capital expense. (Initially, the Administration asked for \$613 million for Amtrak, but revised that in September to \$540 million. Both the House and the Senate appropriations bills included \$735 million for Amtrak.)

D. CONCLUSIONS

Amtrak was created at a time when many of its proponents argued that it had a chance to stand on its own as a profitable enterprise, once it was given a Federal financial boost to get it started. This of course, has not happened, and the deficits have mounted steadily at an increasing rate, exceeding \$800 million last year alone. The division of authority over and responsibility for Amtrak, while certainly not the only reason, or even the main reason, for its inability to turn a profit, have contributed to the size of its deficits by diluting Amtrak management's ability to respond to financial realities in a more forceful and timely way. While the impediments created by law at the outset are not the sole cause of Amtrak's poor financial performance, and probably not even the major cause, they certainly have contributed to the problem in a substantial way. As to whether or not governmental structures per se had a great deal to do with the decision to create Amtrak in the face of the very substantial evidence that it could never be profitable under any of the scenarios being advanced for it at the time, the answer is, probably not. Amtrak is more a product of our political system rather than of the institutional structure through which our political system works. One might reasonably assume that the Rail Passenger Service Act, which created Amtrak, would have a

much more difficult time becoming law today than it did in October 1970. But, this is due to the political and economic climate of the times, not to changes in the institutional structure of Government that have occurred since 1970.

CHAPTER 10. FORECASTING PUBLIC POLICY PROBLEMS GRAIN EXPORTS AND DOMESTIC FOOD PRICES

(By A. Barry Carr, Specialist in Agricultural Policy, Environment and Natural Resources Policy Division)

On July 8, 1972, President Nixon announced the signing of an agreement with the USSR which made available \$750 million of credit for the purchase of U.S. grain over a 3-year period. Unknown to U.S. officials, the Russians had already begun to purchase wheat. Within a few weeks, cash and credit sales of wheat to Russia approximated \$700 million, the largest non-government grain sale in U.S. history.

The record sales of 1972 were followed in 1973 by lower yields in the United States and throughout the world. With the suddenness of an earthquake, these conditions changed the world food picture from surplus to shortage. The United States assumed a new role as leader in world agricultural exports.

Although Secretary of Agriculture Earl Butz viewed the sales to the Soviets as a major achievement, they were controversial. Increased export sales and reduced domestic stocks of grain led to unprecedented inflation of food prices at home. Complaints were heard about the heavy subsidies paid to exporting firms under the USDA's Export Sales Subsidy Program. Farmers charged that the Government gave exporters advance information, enabling them to purchase wheat at low prices for later sale at higher subsidized prices. Many analysts concluded later that the "Great Russian Grain Robbery" resulted from a lack of coordination and information exchange among the several Government agencies involved, and illustrated their failure to forecast, plan for, and adapt to changing world conditions.

This paper will examine the events before and after the massive wheat sale to the USSR in the summer of 1972, the USDA's management of that event, and the public policy responses that have occurred since.

A. HISTORY AND BACKGROUND¹

The Agricultural Act of 1970 was intended to increase the market orientation of U.S. agriculture by reducing somewhat the restrictions on production, minimizing the role of price supports, and increasing markets for agricultural commodities. This policy was continued in the Agriculture and Consumer Protection Act of 1973.

¹ Butz, Earl J. Interview regarding the sale of grain to Russia. October 16, 1972. Washington, D.C. U.S. Department of Agriculture, Office of Information. The Grain Export Situation (8/30/72), August 31, 1972. Washington, 1972. 5 p.

U.S. grain exports had averaged about 10 million metric tons per year in the 1960s. In 1970, the value of farm exports was \$6.7 billion. Exports had fluctuated but had not increased significantly since the mid-1960s. At the beginning of the 1972 crop year, the major grain-exporting countries were holding burdensome carryover stocks of almost 100 million metric tons - a year's export supply. Grain prices had stabilized at a low level. There was a general perception of continued surplus, yet there were forces at work to change that situation.

Stocks of surplus wheat owned by the U.S. Government stood at 363 million bushels at the beginning of 1972. U.S. farmers and Government farm program managers wanted to sell this grain on the world market. For 17 months prior to August of 1972, the Government maintained an export price of \$1.64 per bushel for hard red winter wheat, through the payment of subsidies to exporters. Export subsidies, which had been in use since 1949, averaged \$.35 per bushel in 1972. In addition, farm programs had idled 62 million acres of cropland and supported farm income at a cost of \$3.7 billion dollars.

Several actions by the Administration contributed to the first large sales in the summer of 1972. In June 1971, President Nixon rescinded a directive requiring 50 percent use of U.S. flag vessels in exporting grain to the USSR. This action led to Soviet purchases of \$150 million in feedgrains which were shipped in late 1971 and early 1972. In April 1972, Secretary Butz led a team of USDA officials in a trade development trip to Moscow. On July 8, 1972, an agreement was announced which committed the Soviets to buy not less than \$750 million worth of U.S. grain during the period ending July 31, 1975, with at least \$200 million worth to be purchased the first year. This agreement made USDA credit available to the Soviets for the first time.

Although the trade agreement was between the two Governments, all sales were made by U.S. firms directly to Exportkhleb, the Soviet international trading agency. Under the USDA export credit program, the United States provided credit to the Soviets at market rates of interest.

After the agreement was announced, early sales amounted to approximately 3 million tons. The Russians had been expected to buy chiefly feed grains; however over half of the early purchase was wheat. The Russian buying mission returned to Moscow in July but was back in the United States by early August, placing additional large orders for wheat. The sale of grain to Russia in the summer of 1972 was the largest such transaction in history. The USSR bought about 400 million bushels of wheat, 275 million bushels of feed grains, and 35 million bushels of soybeans. More than \$1 billion was added to U.S. farm receipts.

The unusually large volume of wheat purchased in August caused a rise of 42 cents per bushel in U.S. cash wheat prices. The sharp rise in domestic prices necessitated upward adjustments in the wheat export subsidy, from 5 cents to 38 cents, to keep U.S. export price in line with the world price. It became obvious on August 24 that the United States was in danger of overselling the available supply of wheat if more large transactions were allowed. On August 25, the USDA announced that it would not be able to

hold the U.S. export price at \$1.64 per bushel and that export subsidy payments, which had then reached 47 cents per bushel, would be reduced. On September 22, 1972, the export subsidy was reduced to zero and the U.S. export price for wheat rose to \$2.44 per bushel, 80 cents per bushel above the level before August 25.

Adverse weather in many grain-producing regions caused world grain production to decline by nearly 40 million metric tons in 1972. As a result of this decline and the Soviet Union's decision to purchase sufficient grain to cover its production shortfall, U.S. grain stocks at the beginning of 1973 were reduced to 10 percent of annual production. Poor yields in the United States and other major grain-producing countries prevented a rebuilding of stocks during 1973. In 1974, world grain production declined again, by over 50 million metric tons, and grain prices reached record levels. The 1972 concept of continual surpluses gave way to speculation that the United States had entered an era of continual shortages.

B. GOVERNMENT MANAGEMENT OF THE PROBLEM

On July 20, 1972, the USDA published a report that the winter wheat crop in the USSR had been severely damaged from too little snow cover and extreme cold, and that soil moisture was inadequate for favorable development of grain planted in the spring of 1972. But apparently they were not aware of Soviet intentions to buy large quantities of wheat. Both USDA officials and exporting firms were taken by surprise by the Soviet purchases in July and August of 1972.²

Attache information on Russian crop conditions, and other information about world grain markets was available to the USDA from February 1972 on. First signs of Russian activity in purchasing wheat were noted in March, when attaches reported that Canada had sold about 35 million tons of wheat for delivery between July 1972 and May 1973. Following this sale, the Canadians withdrew from the world market for the remainder of the crop year. Canadian officials advised USDA officials of this action and urged them to raise U.S. export prices (reduce the export subsidy) to take advantage of tight world market conditions. USDA officials chose instead to increase the export subsidy as prices rose.³

Although there were over 200 economists and other analysts in the USDA capable of providing timely and accurate information and analysis of this situation, there was no systematic monitoring or early warning system in place, according to the General Accounting Office (GAO) report issued in July of 1973. Decisions were based upon intuitive judgment, rather than upon systematic analysis, the GAO report concluded.⁴

From July 1 through August 24, exporters booked orders for nearly 400 million bushels of wheat, an amount almost equal to all U.S. commercial wheat exports in fiscal year 1972. With wheat prices rising, the USDA began selling Government stocks of wheat.

² U.S. General Accounting Office. Russian Wheat Sales and Weaknesses in Agricultural Management of Wheat Export Subsidy Program. Report to Congress by the Comptroller General of the United States. B176943, July 9, 1973. Washington, 1973. p. 14.

³ Ibid., p. 18.

⁴ Ibid., p. 22.

From July 1 to August 18, 76 million bushels of wheat were sold, leaving Government stocks at 275 million bushels, in addition to 300 million bushels stored under Government loans in farm and county elevators.

On August 31, 1972, USDA analysts released the following projections:

Recent indications are that wheat stocks are ample to meet all needs during the present marketing year and provide adequate carryover next year. The supply available for the year is 2.4 billion bushels. Domestic use of 800 million would leave 1.6 billion for export and carryover. Even if exports reach an all-time high of 1 billion bushels -- which now seems likely -- we should end the year with a June 30, 1973, carryover of 600 million bushels -- a substantial carryover.⁵

Although this one specific forecast was available to decision-makers, alternative forecasts do not appear to have been considered. The USDA estimate of supply was correct. However, exports were underestimated by 200 million bushels (20 percent) and carryover stocks on June 30, 1973, stood at only 440 million bushels.

The Secretary of Commerce had legal authority to impose export controls if an abnormal level of foreign demand resulted in an excessive drain on scarce materials, and serious domestic inflation. The Equal Export Opportunity Act of 1972 required the approval of the Secretary of Agriculture if controls were placed on farm products. In June 1973, the Secretary of Commerce determined that the United States did not have sufficient supplies of soybeans and cottonseed meal, and their products, to meet domestic requirements and anticipated exports. On June 27, with the approval of the Secretary of Agriculture, he imposed an embargo on the export of these commodities to all markets. The embargo was replaced on July 2 by a licensing system with quotas for soybeans and cottonseed meal, and their products. The export licensing system was terminated on October 1, 1973, as the new soybean crop came on the market.

Prior to August 1971, the USDA had required reports from exporters on export sales consummated. This reporting requirement was administratively discarded because "it had no commercial intelligence value."⁶ The resulting lack of timely information on export sales, during July and August of 1972, was a major impediment to management of the Government stock sales and the export subsidy program.

Without this information, the USDA could not fully assess the future impacts of stock sales on domestic supplies and prices or on future subsidy obligations. The Agriculture and Consumer Protection Act of 1973 (P.L. 93-86) reimposed a requirement on all exporters of wheat, flour, feedgrains, oilseeds, cotton, and other designated commodities to report their sales to the Secretary of Agriculture. These reports allow the Secretary to ensure that foreign demand for a commodity does not reduce supplies below domestic needs.

In early October 1974, the Administration learned through the reporting system that the Soviets had purchased sizeable quantities of wheat and feedgrains. On October 7, the Administration an-

⁵ U.S. Department of Agriculture. The Grain Export Situation. p. 2.

⁶ U.S. General Accounting Office. Russian Wheat Sales. p. 25.

nounced a voluntary prior approval system for export sales of wheat, corn, grain sorghum, soybeans, and soybean meal. The system, later revised to include barley and oats, remained in effect through March 6, 1975. Although there is no record of total denial of any request for export sales, at least one sale to the Soviet Union was negotiated downward in October 1974.

In 1975, the Administration requested a moratorium on sales to the Soviet Union and Poland. The Soviets had made their first 1975 purchase of U.S. grain on July 16. On August 11, the Secretary of Agriculture called for withholding of further sales. The moratorium was lifted on October 20, when the President announced the signing of a 5-year grain trade agreement with the USSR.

Under the 5-year U.S.-USSR grain agreement, the Soviets would buy at least 6 million and not more than 8 million metric tons of wheat and feedgrains each year. The 8-million-ton cap could be waived by the U.S. Government when supplies were adequate. Many farmers perceived the new agreement as a form of permanent export control rather than a guaranteed market for farm exports. This fear culminated in a provision of the Food and Agriculture Act of 1977, which provides that price support loan levels will be increased to 90 percent of parity whenever the President suspends farm exports for reasons of short supply.

C. LESSONS LEARNED

The rapid and unexpected shifts in the food supply in the 1972-1975 period placed hardships on consumers and farmers and damaged U.S. credibility with foreign trading partners and food aid recipients. Domestic food prices increased 14.5 percent in 1973, and again in 1974. Retail food prices became a hot political issue. The sharpest drop in per capita meat consumption ever recorded occurred in 1973 following steep meat price increases, yet high feed prices caused meat producers to go bankrupt by the hundreds. Fall-out from the instability -- grain and soybean export embargoes -- extended into the arena of international relations as well.

Hindsight shows that unrecognized demand pressures had been building for many years, increasing the vulnerability of world grain markets to short-run supply changes. World population was growing at faster-than-anticipated rates. Governments generally were becoming more aware of and sensitive to hunger and malnutrition. The Communist economies had shifted from surplus food producers to net food importers. The wave of technology that had produced impressive yield gains in the 1960s reached a plateau. A systematic monitoring and forecasting program might have provided policymakers with an early warning of these events and their interrelationships.

Where farmers and legislators in the 1930s through the 1960s were concerned with chronic surpluses, the 1970s brought confrontation with periodic shortage. The shock waves which have rippled through the United States food system in the last decade have prompted a reexamination not only of the food and farm policies of this country, but also of the basic assumptions that underlie these policies.

Many of the measures taken in response to the events of 1972-1975 have already been mentioned: termination of export subsidies, export controls in periods of short supply, bilateral agreements setting minimum and maximum export sales levels, and export sales reporting requirements. In recognition of the fact that the free market alone does not induce enough private storage to reduce substantial year-to-year fluctuations in grain prices, given variations in supply and demand, a domestic farmer-held reserve program and an international hunger reserve program have also been established.

The Russian grain purchases of 1972 were successful from their perspective for two reasons: The USSR was represented by one buyer, and it was able to keep from all competing grain sellers the true extent of its actual and intended purchases. Some still question whether the United States has done enough to prevent "grain robberies" which might upset the food supply equilibrium. It has been proposed that a single U.S. grain-selling agency be created to set export prices and negotiate export sales. Critics of this proposal point out that countries with such agencies, such as Canada, fared no better than the United States in the 1972 episode. More stringent sales reporting requirements involving foreign subsidiaries of U.S. export firms have also been proposed.

We are in a new era where our position has changed from almost chronic surpluses to one in which shortages or surpluses can appear suddenly and unpredictably. When the disruption hit early in the 1970s, we were unprepared. Are we as vulnerable today as we were then?

Ed Jaenke, former Under Secretary of Agriculture, has warned that the factors and forces which created the 1972-1974 instability still exist and could trigger another crisis at any time.⁷ Gale Johnson, Professor of Economics at the University of Chicago, has stated, "If a concentration of events similar to those of 1972-1974 should occur again within the next decade, the probability of a similar scenario being played out is very high."⁸

Whether or not we are as vulnerable today as in 1972, there is an increased awareness that, as a Nation, we cannot afford to leave our food needs to chance. Accurate supply and demand forecasts certainly depend upon accurate information about crop conditions throughout the world, as well as about levels of stocks, and about the trading intentions of major nations.

D. EPILOGUE

After the United States imposed an embargo in January 1980 on further sales of grain to the USSR, the Soviets purchased grain from and entered into agreements with other suppliers, such as Argentina, Canada, and Australia. After the embargo was lifted in April 1981, U.S. officials indicated a willingness, indeed eagerness, to negotiate a new agreement with the Soviets. Initially, USSR offi-

⁷ Jaenke, E.A. A National Food Policy: Assuring Food for an Uncertain Future. In *Farm and Food Policy*, 1977. Committee Print, 94th Cong., 2d Sess., Committee on Agriculture and Forestry, U.S. Senate. Washington. U.S. Govt. Print. Off., 1976. p. 11-34.

⁸ Johnson, D. Gale. World Food Problems and U.S. Agriculture. In *Lectures in Agricultural Economics, Bicentennial Year Lectures Sponsored by the Economics Research Service*. U.S. Department of Agriculture. Washington, 1977. p. 123-139.

cials did not express interest in a new agreement or even in further purchases of U.S. grain. However, on August 5, 1981, Secretary Block announced that the United States and the USSR had agreed on a 1-year extension of the 1975 agreement previously slated to expire September 30, 1981. It was also agreed that the two nations would begin in-depth negotiations on a new long-term grain agreement. But on December 29, President Reagan postponed further negotiations as part of the larger package of sanctions against the USSR in retaliation for its role in the Polish martial law crackdown.

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CHAPTER 11. URBAN GROWTH, DEMOGRAPHIC PROJECTIONS, AND LEGISLATIVE ACTION: THE TITLE VII EXAMPLE

(By Eugene Boyd, Analyst in American National Government, Government Division)

This report discusses the enactment of the National Urban Growth and New Communities Development Act--Title VII of the Housing and Urban Development Act 1970--a legislative response to urban demographic trends that Congress anticipated would continue well into, if not beyond, the 1970s. The report discusses the population trends that were a major impetus for Title VII, the resulting legislation, Federal experience under its provisions, and the impact of new data which showed that the trends had not continued as expected.

A. BACKGROUND

During the 1960s urban civil disturbances and projections of rapid population growth in the largest metropolitan areas, of continued suburban sprawl, of continued social and economic stress in the central cities, and of the depopulation of rural areas gave rise to increased Federal involvement in urban programs and policies. The 1960s witnessed the consolidation of several subcabinet housing and community development agencies into the cabinet-level Department of Housing and Urban Development and the expansion of Federal involvement in urban and rural community development, housing, public works, manpower and training, anti-poverty programs, and regional economic development. The fragmented nature of Federal programs and policies led some local officials, planners, and urban affairs lobbying groups to argue that the multiplicity of programs with their unpredictable funding and their sometimes conflicting, sometimes duplicative objectives impeded local ability to undertake and coordinate long-range, community development activities. By the late 1960s there emerged a conscious effort to move the Federal government toward a coherent and complementary set of urban policy objectives to deal with the anticipated effects of projected demographic pressures on urban growth and development.

In 1968, for example, a report by the Advisory Commission on Intergovernmental Relations (ACIR) discussed the continued decline of central cities and rural communities, the problems associated with rapid suburban growth, and the fragmented nature of Federal assistance to local governments.¹ The ACIR report called for the

¹ U.S. Advisory Commission on Intergovernmental Relations. *Urban and Rural America: Policies for Future Growth*. Report No. A-32, Apr. 1968. Washington, U.S. Govt. Print. Off., 1968.

creation of a coherent national urban growth policy and for the creation of planned urban development in the form of new towns.

In 1969, the House Committee on Banking and Currency established an ad hoc subcommittee on urban growth, which held 11 days of hearings on population trends,² 15 days of hearings on the quality of urban life,³ and 9 days of hearings on industrial location policy⁴ --a total of 35 days backed up by countless days of effort by subcommittee staff and by those who prepared the 2,073 pages of testimony that were presented to the subcommittee. The result of the hearings was the enactment of Title VII of the Housing and Urban Development Act of 1970, which declared that the Federal Government "must assume responsibility for the development of a national urban growth policy" and that the national growth policy should (among other things) "help reverse" what were regarded as "threatening" demographic trends which had been observed since the end of the Second World War and which were expected to continue unless appropriate public action were taken. Title VII identified seven broad urban growth policy objectives, required a biennial urban growth report from the President, and authorized grants, loans, and loan guarantees to encourage the development of planned new towns to accommodate anticipated metropolitan growth.

In 1970, the Congress also enacted Public Law 91-213, a separate but not entirely unrelated statute creating the Commission on Population Growth and the American Future. The Commission was created to study the impacts of population growth on all facets of American society. Its multi-volume report reiterated much of what had been stated in the 1968 ACIR report including concerns about the continued decline of central cities and rural communities, the problems associated with rapid and unanticipated suburban growth, and the fragmented nature of Federal assistance to local communities. Among its policy recommendations, the Commission endorsed the formulation of a national urban growth policy, regional systems of governance, and planned new towns.

The ACIR Report, Title VII, and the creation and report of the Population Commission, all illustrate an instance of trend projections (forecasting) influencing the formulation of policy. Experience under Title VII and the effects of new population data, however, offer a lesson in the use of trend extrapolations in formulating urban policy.

B. PROVISIONS OF TITLE VII

The enactment of Title VII of the Housing and Urban Development Act of 1970, marked what its authors hoped would be the beginning of a statutorily based effort to create national urban policy. But Title VII, called the "National Urban Growth Policy and New

² U.S. Congress. House. Committee on Banking and Currency. Ad Hoc Committee on Urban Growth. Population Trends. Hearings, 91st Cong., 1st Sess. Washington, U.S. Govt. Print. Off., 1969.

³ U.S. Congress. House. Committee on Banking and Currency. Ad Hoc Subcommittee on Urban Growth. The Quality of Urban Life. Hearings, 91st Cong., 1st and 2d Sess. Washington, U.S. Govt. Print. Off., 1970.

⁴ U.S. Congress. House. Committee on Banking and Currency. Ad Hoc Subcommittee on Urban Growth. Industrial Location Policy. Hearings, 91st Cong., 2d Sess. Washington, U.S. Govt. Print. Off., 1971.

Communities Development Act,"⁵ in itself did not constitute a national urban policy. Rather it outlined a set of policy objectives around which Federal urban policy strategies were to be formulated. These policy objectives included promoting balanced growth, encouraging effective land use, reducing the fiscal and economic disparities among places, addressing anti-poverty concerns, promoting fair and adequate housing, strengthening local government capacity in administering Federal assistance programs, improving Federal interagency coordination in the delivery of assistance, and promoting new town developments.⁶

Encouraging new town developments was an integral part of Title VII. Expanding an authority first provided in the Housing and Urban Development Act of 1968, Title VII established the New Communities Development Corporation within HUD and authorized the corporation to guarantee privately issue bonds to finance the development of new towns. (Title VII also authorized a series of grants and loans to new community developers, but this authority was never used.) The objective of the new town strategy was to encourage balanced growth; to reduce the economic, physical, and fiscal disparities among declining central cities, declining rural areas, and growing suburban communities; and to accommodate metropolitan growth in rationally developed and well-planned new communities.⁷

Title VII requires the President to transmit to the Congress a biennial reports on issue and trends affecting urban development.⁸ This provision was intended to enhance the ability of the Federal government to anticipate or forecast and to define the scope and complexity of emerging trends and issues affecting urban communities. These reports, the first of which was released in 1972, were also to include legislative proposals and other recommendations intended to minimize adverse effects of emerging trends and to resolve urban policy related issues. They reflect each Administration's approach in addressing the objectives outlined in Title VII, and each Administration's philosophy on the roles of Federal government in addressing urban problems.

C. THE 1972 REPORT ON NATIONAL GROWTH: THE NIXON ADMINISTRATION

The 1972 report reiterated trends and issues identified in previously published private and government documents—such matters as the continued growth of suburban governments, the fragmented nature of Federal assistance, increasing metropolitan concentrations, including the continued concentration of metropolitan-based blacks in central cities, and the westward migration of the population. Policy recommendations of the 1972 report repeated the Presi-

⁵ Title VI of the Housing and Community Development Act of 1977 changed the name of Title VII to the "National Urban Policy and New Communities Development Act"—eliminating the word "Growth."

⁶ P.O. 91-609, Sec. 702

⁷ In 1973, general economic conditions and allegations of mismanagement and abuse resulted in the Nixon Administration placing this program under a moratorium. Since then no new project guarantees have been granted, although the Corporation continues to honor existing bond guarantee commitments. Thirteen projects were assisted under the new communities provisions of Title VII.

⁸ P.L. 91-609, Sec. 703.

dent's "New Federalism" proposals set forth in the State of the Union messages. They focused primarily on reducing the fragmented nature of Federal assistance to local governments and on improving the capacity of local and State governments in administering federally assisted programs. The President proposed a series of revenue sharing programs ranging from a no-strings-attached general revenue sharing program to special revenue sharing programs in the areas of rural and urban community development, education, and transportation. He also recommended the creation of a super-agency to coordinate urban assistance programs of the various Federal departments and agencies.

By 1974, the Congress had acted on a number of those and other proposals. In 1972, it passed the State and Local Fiscal Assistance Act of 1972 creating the general revenue sharing program. In 1973, it passed the Comprehensive Employment and Training Act, which consolidated thirteen manpower and training categorical programs, and in 1974, it passed Title I of the Housing and Community Development Act, which consolidated seven categorical community development programs into the Community Development Block Grant program. Nevertheless, the 1972 urban growth report was criticized because "it made little, if any, constructive contribution toward the development of growth policy."⁹

D. NEW POPULATION DATA

During the early 1970s--the years just after the passage of Title VII and the creation of the Commission on Population Growth--data that became available from the 1970 Census of Population and from Census Bureau sample surveys presented metropolitan and rural population change in a new light. The Bureau's analysis of data for 1970 and 1974 showed that the very population trends that had given rise to public policy concern for explosive growth on the fringes of the largest metropolitan areas and the concurrent depopulation of rural areas had changed. The growth of the 20 largest metropolitan areas had slowed dramatically; 14 of them experienced net outmigration of population; and 5 of them had suffered absolute population loss. The smaller metropolitan areas had become the fastest growing areas of the country, and the exodus of population from rural areas had been reversed.¹⁰

The very trends that Congress had found "threatening" at the end of the 1960s had turned around, not because of Federal action explicitly designed to have such an effect, but as some urban analysts contend, in response to larger economic and societal forces. Few, if any, observers of metropolitan, urban, and rural population patterns, had anticipated such changes.

⁹ U.S. Congress. House. Committee on Banking and Currency, Subcommittee on Housing. Staff Summary Report on the Oversight. Hearings on the President's 1974 Report on National Growth and Development. Committee Print, 94th Cong., 2d Sess., Feb. 1976. Washington, U.S. Govt. Print. Off., 1979. p. 7.

¹⁰ U.S. Bureau of the Census. Current Population Reports. Population Estimates and Projections. Estimates of the Population of States, with Components of Change: 1970-1975. Series P-25, No. 640. Washington, U.S. Govt. Print. Off., 1975. p. 4. See also U.S. Bureau of the Census. Special Studies Social and Economic Characteristics of the Metropolitan and Nonmetropolitan Population: 1974 and 1970. Washington, U.S. Govt. Print. Off., 1975.

E. THE 1974 AND 1976 REPORTS ON NATIONAL GROWTH: THE FORD ADMINISTRATION

The 1974 and 1976 growth reports, released during the Ford Administration, noted the significant changes in demographic trends discussed above. These included regional migration toward southern as well as western States, the reversal of rural population and employment outmigration, and the continued decline in the fiscal capacity of older urban areas. These reports included no legislative recommendations; rather they identified a series of policy options and issues to be considered in fashioning urban policy strategies.

The reports commented on the complexity of fashioning such strategies, noting that urban policy objectives and strategies should be consistent with and linked to national economic, transportation, natural resources, and environmental and other national objectives and policies. These reports also stated that urban policy must recognize the dominant role of the private sector economy in determining the direction of and rate of economic growth and urged an investigation into the effects various Federal policies may have on population distribution patterns. In addition, projections of energy and other natural resource shortfalls prompted Federal inquiries into their potential impact on urban growth and settlement patterns. This concern rekindled interest in community conservation strategies and compact development patterns.

F. THE 1977 URBAN POLICY AMENDMENTS: REFINING POLICY OBJECTIVES

One of the purposes of the biennial reports is to provide Congress and the Executive branch an opportunity to assess the impact of Federal policy and to allow the Executive branch a forum in which to propose appropriate incremental adjustments in both urban policy objectives and strategies. The Housing and Community Development Act of 1977 is illustrative of this purpose. In 1977 Congress amended Title VII in a way which reflected the new realities of urban demographic change and emerging urban concerns. The 1977 amendments eliminated "growth" from the title, included energy conservation as a urban policy objective, and modified the policy objective of reversing trends which minimizes disparities among places. The latter provision was changed to "encouraging development and redevelopment patterns which minimize disparities" among places. The modification of the latter provision, it can be argued, marks a lesson learned on the part of Congress that Federal policy may not be able (or even wish) to reverse the dominant social and economic trends which determine the rate and distribution of population growth and urban development, and that at best Federal policies ought to attempt to minimize the adverse effects of observed trends.

Congress linked the amendments to Title VII with standing community development legislation by amending Title I of the Housing and Community Development Act of 1974. The 1977 amendments included instituting a second entitlement formula to minimize inequities of the single formula which adversely affect older urban communities, principally in the Northeast, adding energy conservation as an eligible Title I activity, and targeting special assistance

in the form of Urban Development Action Grants to communities experiencing population outmigration, economic decline, and fiscal distressed. It can be asserted, that these amendments reflect an incremental approach—though some would characterize it as a crisis-oriented approach—to urban policy implementation.

G. THE 1978 AND 1980 URBAN POLICY APPROACH: THE CARTER ADMINISTRATION

The 1978 urban policy report went beyond the previous urban growth reports. It not only outlined the range of urban policy oriented issues and trends but proposed a set of policy strategies intended to address the urban policy objectives of Title VII. These strategies included: 1) targeting assistance to distressed places, primarily, and people in need, 2) encouraging participation of the private sector in the redevelopment of distressed communities, 3) improving planning and management capabilities of local governments, 4) reducing sprawl and its negative affects, 5) fostering neighborhood based strategies, and 6) encouraging greater involvement of States in assisting local governments.

The 1980 report slightly modified these objectives stressing the Carter Administration's strategy of targeting assistance to distressed places and disadvantage people. The report did suggest the end to and possible reversal of the decades-old trend of southern black migration to northern industrial cities. But the report also noted the growing concentration of minorities as a percentage of total central city population, despite evidence of the rehabilitation of declining inner city neighborhoods by white middle class households, and the growing percentage of metropolitan based blacks moving to suburban communities.

Between 1978 and 1980, a number of legislative and administrative actions were undertaken in an effort to implement the objectives of Title VII, to augment initiatives incorporated in Title I, and in support of strategies outlined in the 1978 urban policy report. For instance, the Administration undertook a number of initiatives intended to reduce the impact of population and employment losses on central cities and older urban areas. These actions included the issuance of several Executive Orders intended: 1) to encourage the location of Federal facilities in central business districts, 2) to encourage Federal procurement from vendors located in "labor surplus" areas, 3) to minimize the adverse affects of federally supported commercial development on existing commercial centers by undertaking urban impact analysis, and 4) to encourage interagency coordination in the delivery of Federal assistance.

In addition, Congress passed a series of legislative initiatives intended to address the policy objectives outlined in the 1978 report and reiterated in the 1980 report. These included the Neighborhood-Self Help Development Act, which authorized HUD to provide funds and technical assistance to community based groups undertaking community development activities, and the Neighborhood Reinvestment Act, which authorizes the Neighborhood Reinvestment Corporation to provide technical assistance to local Neighborhood Housing Services organizations undertaking housing rehabilitation activities.

H. URBAN POLICY FORECASTING EXPERIENCE: LESSONS LEARNED

Observers of the Federal experience under Title VII have raised a variety of questions about its purpose, and its rationale. Although many of their questions and observations are of interest and value several observations stand out as particularly relevant to this volume. Enactment of Title VII was based on well documented long term trends. The forecasts which contributed to the enactment of Title VII were derived by extrapolating existing trends into the future, operating under the assumption that these trends would continue and would adversely affect the quality of urban life. Accordingly, Congress set forth a set of policy objectives for strategies and programs intended to reverse these trends and mitigate their adverse impacts.

By the time Congress had passed Title VII, one of the trends which it had hope to reverse--the depopulation of rural areas--was turning itself around and new issues of concern were emerging. This is one example where monitoring trends and patterns failed to provide the proper information on what lay ahead.

The biennial reports are affected by this basic forecasting limitation. Title VII requires that each biennial report identify emerging trends affecting urban growth. These reports generally identify such trends only after they are issues of pressing national concern. The energy crisis is an example where the biennial reports recognized the potential urban affects of energy shortfalls only after the embargo of 1973 raised the energy issue to crisis status. Thus the inclusion of energy conservation as an urban policy objective--four years after the embargo of 1973--was a reaction to a pressing here-and-now concern rather than an anticipatory action.

The energy issue and changing migration trends are illustrative of the shifting context in which urban policy is formulated. To be able to forecast such trends and their effect on the spatial distribution of the population requires reliable and timely data and an awareness that many factors, some related--some seemingly unrelated, affect the distribution of the population.

One final forecasting insight may be drawn from the Title VII experience. A mechanism, such as the biennial report, provides an opportunity to gauge, on an on-going basis, the relative condition of urban areas, to assess the accuracy of forecasting efforts and the assumptions under which they are made. It thus provides an opportunity to redirect policy objectives and to make incremental adjustments in strategy.

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CHAPTER 12. ECONOMIC PLANNING AND THE EMPLOYMENT ACT OF 1946

(By Dennis M. Roth, Specialist in Labor Economics and Relations)

Passage of the Employment Act in 1946 marked a watershed statement of Federal Government willingness to accept the responsibilities in the Nation's economic prosperity. One section of the Act (Section 3(a)) mandated the President to present to the Congress an annual Economic Report at the beginning of each regular session. In particular, the Report was to set forth "(1) the levels of employment, production, and purchasing power obtaining in the United States *and such levels needed to carry out the policy* [to promote maximum employment, production, and purchasing power]...(2) current and foreseeable trends in the level of employment, production, and purchasing power; (3) *a review of the economic program of the Federal Government and a review of economic conditions affecting employment in the United States or any considerable portion thereof during the preceding year and of their effect upon employment, production, and purchasing power*; and (4) *a program for carrying out the policy...together with such recommendations for legislation as he may deem necessary or desirable*." (All emphasis added.) Furthermore, a Council of Economic Advisers to the President was created "*to formulate and recommend national economic policy to promote employment, production, and purchasing power...*" Finally, a Joint Committee on the Economic Report (now the Joint Economic Committee) was created within the Congress to evaluate the President's and the Council's recommendations. Thus, the Federal Government committed itself to very general economic goals which were to be pursued partly on the basis of forecasting. The discussion which follows briefly evaluates the extent to which the Federal Government has fulfilled the planning requirements stated in the Employment Act of 1946.¹

A. HISTORY

The maintenance of a high level of employment was not perceived in the United States as a major responsibility of the Federal Government before the 1930s. The "human problems" resulting from unemployment "were left to local and usually private charities; the course of the trade cycle was left to God and economic 'laws'."²

Between 1929 and 1933 the unemployment rate rose dramatically in the United States, from just over 3 percent to over 25 percent.

¹ For a detailed examination of the development and implementation of the Employment Act of 1946, see "The Employment Act of 1946 and the Opportunity for Economic Planning: The Federal Government's Response," by Dennis M. Roth (forthcoming).

² Bailey, Stephen Kemp. *Congress Makes A Law*. Westport, Conn., Greenwood Press, 1950. p. 5.

And until the New Deal programs of President Franklin D. Roosevelt were started in 1933, neither the Congress nor the Administration took effective action to alleviate the hardships resulting from unemployment or towards ameliorating unemployment.

As late as 1940, the official unemployment rate was still about 15 percent. New Deal programs gave employment to only between one-quarter and one-third of those who were out of work in the 1935-1941 period. Thus, the real significance of these programs was in demonstrating that large-scale Government intervention through both public works and direct public employment could create jobs and reduce unemployment during an economic downturn.

While the depression undoubtedly affected public opinion on the role of the Government in employment policy, it was the period of full employment during World War II that was the real impetus for the Employment Act of 1946. Both the American people and public officials had not forgotten that the unemployment problem had not been solved in peacetime. The fact that it had been solved by war led people to ask why. Analysts have cited three major reasons: (1) aggregate demand grew rapidly (GNP nearly doubled); (2) military employment reached 13 million, and millions more were employed in related supply services (national security expenditures were about 42 percent of GNP in 1943 and 1944); and (3) Federal economic controls and planning took over the economy (e.g., the War Production Board planned output, the Office of Price Administration and the War Labor Board set prices, wages, and rents, etc.).

In the United States, the issue of maintaining high levels of employment after the war was pursued in Congressional hearings dealing with how to reconvert to a peacetime economy when the war had ended. Furthermore, in the election campaign of 1944, both political parties called for sustained employment. The Democratic platform pledged the party to "guarantee full employment" while the Republicans promised to "promote the fullest stable employment through private enterprise."

In January 1945, Senator James E. Murray (D., Montana) introduced S. 380, the Full Employment Bill of 1945. The legislative debate on this bill has been extensively reported, most notably in Stephen Kemp Bailey's *Congress Makes a Law*.

An examination of the legislative history and the final language of the Employment Act of 1946 indicates that: (1) supporters of the original bill were unsuccessful in their attempt to commit the Federal Government to assuring "full" employment or to any specific level of employment through direct expenditures, but (2) were successful in establishing a Government responsibility, albeit a nebulous one, for achieving a high level of employment and for behaving reasonably in the choice of means for doing that. Analysts are not unanimous in their interpretations of the significance of the Act. Nevertheless, the signing of the Act gave to the Federal Government a new mandate to ensure that the economy would provide "useful employment for those able, willing, and seeking to work."

B. IMPLEMENTATION OF THE ACT

Section 3 of the Employment Act required an Economic Report of the President to be presented to the Congress early each session. The Report was to include:

1. The levels of employment, production, and purchasing power obtained in the United States and such levels needed to carry out the Federal government's responsibility cited above;
2. Current and foreseeable trends in the levels of employment, production, and purchasing power;
3. A review of the economic program of the Federal Government and a review of economic conditions affecting employment in the United States, or any considerable portion thereof during the preceding year and their effect upon employment, production, and purchasing power; and
4. A program for carrying out the responsibilities cited above, together with such recommendations for legislation as may be necessary or desirable.

The track record of meeting the planning provisions has been, at best, poor. Under a very broad interpretation of the Act, some may consider the 35 Economic Reports issued since its enactment responsive to the requirements of Section 3 of the Act; however, the language of the Act suggests to others that a long term economic plan would logically be needed; to date, no President has issued in his Economic Report any long-run economic plan geared to achieving a maximum employment economy. Nor has the Council of Economic Advisers or the Congress offered such a plan.

In the absence of an overall economic plan designed to promote maximum employment, production, and purchasing power, the Congress in 1978 significantly amended the Employment Act of 1946 through the Humphrey-Hawkins Act (Full Employment and Balanced Growth Act).

The Full Employment and Balanced Growth Act of 1978 established in law for the first time a procedure by which basic economic goals are to be proposed, considered, and established by the President and his advisers, the Congress, and the Federal Reserve. Specifically, the President is required to submit, in the Economic Report, annual numerical goals for employment, production, real income, productivity, and prices during the succeeding five years.

This Act added a more definitive planning and coordination dimension to the Employment Act of 1946. Specifically, it added to the "continuing policy and responsibility of the Federal Government" the mandate "to coordinate and utilize its plans, functions, and resources for the purpose of creating and maintaining . . . conditions which promote . . . full employment, production, and real income, balanced growth, adequate productivity growth, proper attention, to national priority needs, and reasonably stable prices . . ." While the Economic Report is the major vehicle for demonstrating the planning process, the Act goes further. The mandate is to be further carried out by requiring the President's budget (a) to recommend levels of expenditures and receipts which are consistent with the first two years' economic goals of employment and unemployment, production, real income, and productivity, and (b) to provide five-year projections of expenditures and receipts which are consistent with the full employment goals. Furthermore, the Federal Reserve Board plays a role in the planning process by being re-

quired to prepare twice a year an independent statement setting forth its intended policies for the year ahead and their relationship to the President's goals.

C. POLICY IMPLEMENTATION

Except possibly for the attempt by the Kennedy Administration to use fiscal policy to spur on economic growth, the response to the mandates of the Employment Act of 1946 and the Full Employment and Balanced Growth Act has been short-term and reactive to the status of the economy at that time. For administrations generally, "the future was now" and integrated, systematic planning for future economic stability and growth with the aim of full employment was not forthcoming from them. The revisions made in the Employment Act in 1978 (the Full Employment and Balanced Growth Act of 1978) have not, for a number of reasons, led to the development of systematic, broad scale planning and co-ordination of Government programs.

The extent to which the Federal Government will shift its sights to longer-run economic planning is difficult to predict. President Reagan has to some extent started to implement long term measures, but primary emphasis on the goal of full employment is not a characteristic of that policy. In fact, in the current Administration's philosophy (and a major strain in American political philosophy), the Government ought to disassociate itself from managing the economy and encourage the private sector to implement the goal of full employment.

D. SUMMARY

From the previous discussion, one could safely conclude that the United States Government has not taken seriously its opportunity to use long-term forecasting in the development of its economic policies. None of the Economic Reports issued to date have contained a substantive economic plan with specific goals, timetables, and programs and policies to achieve those goals. Rather, economic planning has been short-term, in most cases crisis oriented, and consequently ever changing in response to the needs of the moment. Somewhat ironically, it has been the Reagan Administration, with its strong belief in supply-side economics, that has stood its ground against the buffeting economic winds. Up to now the Administration has continued to argue that its "economic plan" is long-run in nature and that its basic programs and policies should not be altered in response to short-term economic phenomena.

This steadfastness raises, perhaps, the key issue of long-term economic planning in the United States. The President and the 535 members of Congress are political creatures and must be responsive to the desires of their constituents if they wish to remain in positions of national leadership. Consequently, it is not surprising that long-term economic planning has been difficult to achieve in the United States. A case is also made by some that the economic and legal powers held by the President and the Congress under the constitution are not sufficient (relative to those held by the courts, the States and the private sector) to effect more than limited direc-

tional influences on the enormous and dynamic American economy.

While the overall goal of a healthy and prosperous economy with maximum employment, production, and purchasing power is agreed to by all, the means for achieving it differ along political party lines and often within party lines. Thus, unless some common ground can be found for establishing and carrying out a long-term economic plan (some hoped that the passage of the Full Employment and Balanced Growth Act in 1978 would achieve this), it appears highly unlikely that this country will be able to function under such a system. While the Reagan Administration has been successful during its first year in implementing policy embodying its long-term supply-economics beliefs, the Administration may be forced by public opinion and a weak economy to alter its current economic program, unless favorable tangible results are achieved reasonably soon in the economy.

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CHAPTER 13. ADVISORY BODIES: ACCOMPLISHMENTS AND LESSONS LEARNED

(By Stephanie Smith, Analyst in American National Government, Government Division)

A. INTRODUCTION

Advisory bodies—whether they are called commissions, committees, councils, groups, panels, task forces, or boards—have been used over the past few decades by both the executive and legislative branches of the Federal Government to review and analyze public policy problems or proposals, to render advice, and to make recommendations on a variety of issues. They have addressed such broad, long-term issues as environmental quality, national goals, and natural resources as well as such specific matters as urban disorders, campus unrest, and nuclear accidents. The advisory body approach to obtaining information, analysis, advice, and recommendations on public policy issues is one which Congress may wish to examine as it considers alternative institutional arrangements for enhancing its policy-making capabilities.

A variety of motives, however, can give rise to the creation of advisory bodies by the Congress or by the President. Some have been established to heighten public awareness or to focus public attention on a particular policy area or national problem. The establishment of an advisory commission or an advisory committee with members representing diverse points of view, the public hearings it holds, its interim studies, and the publication of its final reports can generate publicity, increase public awareness of the issues being addressed, bring policy relevant knowledge to light, and (perhaps) even catalyze political action. But some advisory bodies have, it appears, been established not to catalyze, but to delay decision to gain time for the development of greater public consensus or for a cooling of passions. Some have been established, in part at least, to either put pressure on or take pressure off of the President or Congress.

Whatever motives have given rise to advisory bodies in the past, the advisory body concept may be a useful model when considering ways to organize an institution through which Congress could benefit from analysis, advice, and recommendations for dealing with difficult issues. The advisory body can be organized to preserve an independent view, and to draw as needed on the expertise of scholars and individuals of national reputation who would not be available to serve as permanent advisers. On the other hand, it can be argued that the advisory body approach does not offer capabilities significantly different from capabilities already available to Congress through its hearings and study mechanisms and its four existing support agencies. Wherever the weight of the argument lies,

a review of the advisory body organizational concept and an examination of governmental experience with such bodies may be useful.

This report discusses governmental commissions and other advisory bodies created during this century and the circumstances under which they have operated. It also discusses the lessons that can be learned from that experience and that may be applicable to the future creation of advisory commissions designed to serve the legislative branch.

B. HISTORY AND BACKGROUND

Commissions to aid in policy making were first used by Presidents, beginning with the Administration of President George Washington. In 1794, Washington sent a three-member commission to Pennsylvania in an unsuccessful attempt to persuade the rebellious farmers to yield to the Government during the Whiskey Rebellion. They ultimately advised the President that sterner measures were needed, and the militia was sent to end the rebellion. One expert (Wolanin) has observed that this commission was actually an operational group dealing directly with a crisis in more than a broad advisory capacity.¹

James MacGregor Burns has suggested that Washington's Secretary of the Treasury Alexander Hamilton was responsible for setting the precedent for national commissions. Interested in augmenting the President's implied powers in the formulation of legislative policy, Secretary Hamilton responded to a formal request by the House of Representatives for advice on national fiscal problems. These requests resulted in reports on public credit and a national bank that:

... laid the foundations not only of Federalist measures but of national economic policy for decades to come. Hamilton's reports also set the precedent for the presidential commissions that in later decades would challenge Congress for supremacy in dramatizing alternatives of national policy.²

It was not until the twentieth century, however, that Presidents began to make extensive use of advisory commissions to analyze public policy issues. Wolanin has called President Theodore Roosevelt the "Father of the Presidential Advisory Commission" because he was the first President to use nongovernmental experts for policy guidance.³ During the Roosevelt Administration, Congress created national commissions dealing with such diverse topics as public lands, inland waterways, country life, and national conservation. One commission created by Congress, the Aldrich Commission, made recommendations which led to the establishment of the Federal Reserve System.⁴

President Roosevelt was subject to congressional criticism for his creation of temporary commissions. One Congressman objected to these types of commissions "working under authority for the execu-

¹ Wolanin, Thomas R. *Presidential Advisory Commissions*. Madison, Wisconsin, The University of Wisconsin Press, 1975, p. 5. [Hereinafter cited as Wolanin, *Presidential Advisory Commissions*.]

² Burns, James MacGregor. *Presidential Government*. Boston, Massachusetts, Houghton Mifflin Co., 1965, p. 10.

³ Wolanin, *Presidential Advisory Commissions*, p. 5.

⁴ Popper, Frank. *The President's Commissions*. Washington, the Twentieth Century Fund, 1970, p. 8. [Hereinafter cited as Popper, *the President's Commissions*.]

tive department alone, and employing a great many people in the various departments; . . . all being done without authority of law."⁵ However, in domestic affairs the President's power to create commissions as a source of advice appears in theory to be unlimited, as long as the commissions are voluntary and funds are supplied from outside sources.

Congress does play a significant role in the commission process, because the greatest number of national study commissions are those created and funded by Congress and appointed by the President.⁶ According to Marcy:

Although the President may appropriately create a commission with the consent of Congress where there is countrywide support for the investigation, and no strong lobbies in Congress to curtail the investigation, investigations brought about in this method are as much congressional as presidential. A President who is the leader of his party and who has the support of Congress, may get considerable congressional assistance for his commissions, but if a commission created by the President with congressional support were to make findings which reflected upon Congress, one may be sure that its appropriations would be short lived.⁷

President William Taft did not rely on the theory of Presidential powers to create commissions, but instead appointed national study commissions only when given authority and funding by Congress, as was the case with the Commission on Economy and Efficiency. Authorized by Congress, the Commission consisted of accountants and experts from official and private life who were directed to "inquire into the methods of transacting the public business of the Government." Their recommendations to the President and Congress resulted in the creation of the Bureau of the Budget.⁸

Nearly 100 boards and commissions were created during the Wilson Administration by the Congress and the President; approximately 30 during the Administration of Warren Harding; and nearly 70 during the Presidency of Calvin Collidge.⁹

During his first 16 months as President, Herbert Hoover stated that there had been 60 commissions, boards, and similar bodies appointed.¹⁰ An important commission of the opinion-guiding variety authorized by Congress during the Hoover Administration was the National Commission on Law Observance and Enforcement (Wickersham Commission). The Commission was authorized by Congress to study the issue of prohibition, and was criticized for its failure to reach a consensus in its final report on whether or not prohibition should be repealed.

During the Administration of Franklin D. Roosevelt, it is estimated that more than 100 advisory bodies were appointed by the President and Congress. According to one source, President Roosevelt focused his attention on the creation of legislative commissions in contrast to commissions designed to focus attention on general issues:

⁵ Marcy, Carl. *Presidential Commissions*. Morningside Heights, New York, King's Crown Press, 1945. p. 8. [Hereinafter cited as Marcy, *Presidential Commissions*.]

⁶ Ibid.

⁷ Marcy, *Presidential Commissions*, p. 15.

⁸ U.S. Congress. Senate. *Federal Commissions, Committees and Boards*. Washington, U.S. Govt. Print. Off., 1930. p. 35. (71st Congress, 2d sess. Senate. Document No. 174). [Hereinafter cited as U.S. Senate, *Federal Commissions, Committees, and Boards*.]

⁹ U.S. Senate, *Federal Commissions, Committees, and Boards*, p. 132.

¹⁰ Marcy, *Presidential Commissions*, p. 4.

President Roosevelt did not simply focus public attention on particular problems and then leave action to Congress. He focused attention if necessary, had legislation prepared under his guidance, and submitted the matter to Congress.¹¹

The period beginning with 1945 is considered by some writers as the starting point for the systematic evaluation and discussion of commissions.¹² The data and documentation for the public record is more complete and accessible from this time, and, additionally, persons who were involved in the actual commission process are still available for interview by authors and students of advisory committees.

C. CONGRESSIONAL ADVISORY COMMISSIONS

Although most advisory commissions have been established with as much of an orientation toward the executive branch as to the legislative branch, there are instances of advisory bodies established by Congress for itself. A relatively recent example is the Senate Commission on the Operation of the Senate. The Commission, known as the "Culver Commission," was established by S. Res. 227, which the Senate adopted in July 1975, "to make a comprehensive and impartial study of the organization and operation of the Senate." Beginning its work the following October, the Commission sought:

To strengthen administrative services in order to improve the working environment;

To find ways to conserve and use time more effectively, including scheduling floor and committee activities so as to avoid conflicts;

To strengthen the demand for, and improve the supply of, research and analytical support for the development of legislation; and

To improve techniques and access to information for oversight.

As stipulated by S. Res. 227, Commission membership consisted of nine persons from private life and two ex-officio members selected from among Senate employees. The members were appointed by the President of the Senate, pursuant to the joint recommendation of the majority and minority leaders. The decision not to appoint sitting Senators to the Commission reportedly was intended to enhance the likelihood that Commission members would bring a fresh perspective to their assignment and that they would be somewhat divorced from political pressures.

The Commission obtained its information and developed its recommendations through hearings, staff and member meetings with Senators and key Senate staff, and studies by its own staff, the congressional support agencies, and consultants. In addition, particular topics were explored through "roundtable" sessions involving participants from the academic community, and other areas of private and public life.

The Commission made its recommendations to the Majority Leader and Minority Leader in the following general areas: 1) administration--Senate-wide services; 2) space availability and utilization; 3) time utilization; 4) improving legislation by means of over-

¹¹ Marcy, *Presidential Commissions*, p. 47.

¹² Authors Carl Marcy, Thomas Wolanin, and Frank Popper discuss this in their books, which are footnoted elsewhere in this report.

sight, technology, and the support agencies; 5) public communications; and 6) compensation and standards.

Although the Commission had been expected to prepare the way for changes in the operation of the Senate and to take a more rational approach to change than in the past, the Senate took no formal action to implement the Commission's major recommendations—except in the area of standards of conduct. Some observers argue that because membership had been purposely composed of individuals outside of the Senate—individuals who would not be directly affected by the proposed changes—the Commission's recommendations were not taken seriously.

Another example, the House Commission on Administrative Review (Obey Commission), was established by H. Res. 1386 on July 1, 1976, in response to dissatisfaction with the adequacy, organization, management, and control of administrative services for the House. Section 2(a) directed the Commission to "conduct a thorough and complete study with respect to the administrative services of the House of Representatives, including staff personnel, administration, accounting and purchasing procedures, office equipment and communication facilities, recordkeeping, emoluments, and allowances." The Commission was not authorized to report legislation.

In addition to its public hearings and meetings, the Commission gathered information and opinions by panel discussions, staff studies, reports from congressional support agencies, consultants' reports, and extensive surveys of both public and congressional perceptions and opinions. Much of this research was published in the Commission's two-volume final report of nearly 1400 pages. The Commission made recommendations to the House on three general subjects: financial ethics, scheduling, and administrative reorganization and legislative management.

During debate on the special rule under which H. Res. 766 was to have been considered, individual Members expressed opposition to the terms of the special rule as well as to provisions of the resolution itself. It seems likely that the decision not to consider the Commission's administrative recommendations resulted from the confluence of many different factors, rather than from widespread opposition to the general goal of administrative reform.

D. DEFINITION AND CLASSIFICATION OF GOVERNMENT COMMISSIONS

As early as 1955, the Special Studies Subcommittee of the House Committee on Government Operations began studying the need for regulation and oversight of Federal advisory committees. Both the Senate and House Committees on Government Operations were concerned by the lack of accurate data on the number of governmental commissions operating within the Federal Government. Following extensive hearings by both Committees during the 91st and 92d Congresses, legislation resulted in the passage of the Federal Advisory Committee Act (Public Law 92-463, 86 Stat. 770) on October 6, 1972.

The Federal Advisory Committee Act (FACA) required the establishment of procedures and guidelines to improve advisory committee management and to increase their public accountability. With

passage of the FACA, the President is required to annually submit to the Congress a report containing:

... the name of every advisory committee, the date and authority for its creation, its termination date or the date it is to make a report, its functions, a reference to the reports it has submitted, a statement of whether it is an ad hoc or continuing body, the dates of its meetings, the names and occupations of its current members, and the total estimated cost to the United States to fund, service, supply, and maintain such committee.¹³

In addition, the Act requires every advisory committee to terminate within two years unless extended by executive action or by statute.

Section 3 of the Federal Advisory Committee Act defines "advisory committees" as:

... any committee, board, commission, council, conference panel, task force, or other similar group, or any subcommittee or other subgroup thereof which is--

- (A) established by statute or reorganization plan, or
- (B) established or utilized by the President, or
- (C) established or utilized by one or more agencies,

in the interest of obtaining advice or recommendations for the President or one or more agencies or officers of the Federal Government, except that such term excludes (i) the Advisory Commission on Intergovernmental Relations, (ii) the Commission on Government Procurement, and (iii) any committee which is composed wholly of full-time officers or employees of the Federal Government.

Of the 1439 Federal advisory committees in existence at the end of 1972, 251 or about 18 percent were created by statute. 14/ The year 1972 is chosen as a starting point because the General Services Administration began collecting data then on advisory committees as required by the Federal Advisory Committee Act.

Of the 941 committees which were in existence at some time during 1979, 37 percent (348 committees) were specifically directed by law; 30 percent (279 committees) were authorized, but not specifically directed to be established, by law; 30 percent (285 committees) were established under general agency or departmental authorities; and the remaining 3 percent (29 committees) were established by Presidential directive.¹⁵

During 1980, 974 commissions were in existence at some time during the year. Forty-five percent (437 committees) were specifically directed by law; 26 percent (252 commissions) were authorized, but not specifically directed to be established, by law; 26 percent (254 committees) were established under general agency or departmental authorities; and the remaining 3 percent (31 committees) were established by Presidential directive.¹⁶

The trend has been toward an increase in the number of advisory commissions created by statute since 1972. This may indicate that the Congress has increasingly come to use commissions in treating issues of domestic policy.

¹³ 86 Stat. 770, sec. 6(c).

¹⁴ U.S. General Services Administration. Federal Advisory Committees. Annual Report of the President. Washington, U.S. Govt. Print. Off., March 1973. p. 2. [Hereinafter cited as GSA, Federal Advisory Committee Annual Report.]

¹⁵ GSA, Federal Advisory Committee Annual Report, March 1980, p. 2.

¹⁶ GSA, Federal Advisory Committee Annual Report, March 1981, p. 1.

E. FUNCTIONS OF NATIONAL ADVISORY COMMISSIONS

It is commonly asserted by critics of national advisory commissions that too frequently the reasons for their creation are to evade issues and to avoid taking some other kind of action.¹⁷ Commissions have also been criticized as being inefficient and wasteful of resources. George Sulzner, in his "Policy Process and the Uses of National Governmental Study Commissions", writes that:

Many scholars who have evaluated the work of national governmental study commissions have emphasized the limited policy production that has resulted from the work of such groups and have thus led to question the problem-solving utility of commissions.¹⁸

In his testimony before the National Commission on Civil Disorders, better known as the Kerner Commission, Kenneth Clark questioned the ultimate value of the Commission's work, findings, and recommendations in light of earlier riot commissions which had issued reports which produced no further action:

I read that report . . . of the 1919 riot in Chicago, and it is as if I were reading the report of the investigating committee on the Harlem riot of '35, the report of the investigating committee on the Harlem riot of '43, the report of the McCone Commission on the Watts riot . . . I must again in candor say to you members of this Commission—it is a kind of Alice in Wonderland—with the same moving picture re-shown over and over again, the same analysis, the same recommendations, and the same inaction.¹⁹

A question often asked about national commissions is, "Why does the Congress decide to appoint a commission?" According to Thomas Wolanin, commissions have the capacity to provide expert advice to the Congress in matters of public policy within a definite time frame. In his view, they are a "creative" approach used by Congress to reform the status quo and to examine new issues. Commissions, by virtue of their temporary status, are appointed as a means to circumvent the normal bureaucratic channels. The creation of a commission by the Congress or the President suggests a decision to formulate innovative domestic policies beyond what currently exists.

There is another function that a national commission provides for the Congress. Daniel Bell, in "Government by Commission", has stated that the appointment of a commission serves as a public relations device to draw attention to certain issues and to elicit public support for policies. Study commissions also allow for the direct representation of "functional constituencies" in the advisory process, i.e., to seek the advice and counsel of diverse points of view on an issue.²⁰

F. MEMBERSHIP

The Federal Advisory Committee Act contains guidelines for membership for commissions which are created by Congress. Sec-

¹⁷ For example, see Wolanin, *Presidential Advisory Commissions*, p. 22-24.

¹⁸ Sulzner, George. *The Policy Process and the Uses of National Governmental Study Commissions*. *The Western Political Quarterly*, v. 24, Sept. 1971. p. 439.

¹⁹ Report of the National Advisory Commission on Civil Disorders. Bantam Editions, New York, 1968. p. 483.

²⁰ Cronin, Thomas E., and Sanford D. Greenberg, eds. *The Presidential Advisory System*. New York, Harper and Row, 1969. p. 120-121.

tion 5(b) states that the legislation must require the membership of the advisory committee to be "fairly balanced in terms of the points of view represented and the functions to be performed by the advisory committee." The legislation may denote membership requirements in terms of particular Federal officials and representation by Members of Congress may be required. There may also be requirements for persons from the private sector representing particular interests. In addition, the President may be required by the legislation to appoint members to the commission.

The selection of commission members is a careful exercise in consensus politics. Ideally, an attempt is made to appoint members of diverse points of view, who will also be capable of studying the issues under consideration without bias.

One problem results from the trend of most recent Congresses to appoint members who are professionally well established in their areas of expertise. There has evolved a group of commission members who are repeatedly chosen to serve on national commissions; one prominent commission member served on four national commissions. An authority on manpower and labor issues also served on four study committees during a twenty-year period.²¹

G. FUNDING

Table 1 indicates the budget authority and outlays for five national study commissions. Four commissions were created by Congress: the Commission on Federal Paperwork; the National Commission on Electronic Fund Transfers; the National Study Commission on Records and Documents of Federal Officials; and the National Commission on Social Security. The President's Commission on Pension Policy was created by Executive Order.

The figures are representative of the variable costs entailed for national commissions, ranging from outlays of \$9.9 million for the Commission on Federal Paperwork to approximately \$500,000 for the National Study Commission on Records and Documents of Federal Officials. An analysis of cost figures must take into account the scope of the commission's mandate, the type of study to be undertaken, its term of existence, and the number of paid commission members and staff.

The Commission on Federal Paperwork, in existence from 1974 until 1977, was mandated by Congress to review paperwork requirements and the procedures for developing and using information within the Federal Government. In carrying out its work, the fourteen-member Commission conducted investigations, held hearings throughout the country, and made 36 separate reports on various Federal programs, such as welfare, energy, education, and housing. In September 1977, the Commission submitted its 41 page *Final Summary Report* to the Congress and the President.

The National Study Commission on Records and Documents of Federal Officials was established by Public Law 93-526, December 19, 1974, and amended by Public Law 94-261, April 11, 1976. The seventeen-member Commission was mandated by Congress to make recommendations with respect to the control, disposition, and pres-

²¹ The Commission: How to Create a Blue Chip Consensus. *Time*, v. 95, Jan. 19, 1970. p. 22.

ervation of records and documents produced by or on behalf of Federal officials. It submitted its 137 page *Final Report* in March 1977.

TABLE 1. Selected National Commissions: Budget Authority and Outlays

(in Thousands of Dollars)

Fiscal year	Commission				
	Federal paperwork (1974-77)	Electronic fund transfers (1974-77)	Records and documents of federal officials (1975-77)	Social security (1977-81)	Pension policy (1978-81)
1975					
Budget Authority	--	500	--	--	--
Outlays	--	--	--	--	--
1976					
Budget Authority	4,100	--	350	--	--
Outlays	1,285	193	45	--	--
Transition quarter					
Budget Authority	2,000	--	--	--	--
Outlays	1,367	205	105	--	--
1977					
Budget Authority	5,000	1,300	350	--	--
Outlays	6,045	1,255	376	--	--
1978					
Budget Authority	--	200	--	--	--
Outlays	1,041	345	9	--	--
1979					
Budget Authority	--	--	--	2,500	--
Outlays	2	1	2	306	--
1980 (estimate):					
Budget Authority	--	--	--	--	2,000
Outlays	--	--	--	1,014	224
1981 (estimate):					
Budget Authority	--	--	--	--	--
Outlays	131	--	--	1,179	1,676
1982 (estimate):					
Budget Authority	--	--	--	--	--
Outlays	--	--	--	--	100
Total:					
Budget Authority	11,100	2,000	700	2,500	2,000
Outlays	9,871	1,999	537	2,499	2,000

Source: U.S. Office of Management and Budget, Executive Office of the President, *The Budget of the United States, FY 1976-82*, Washington, D.C. Govt. Print. Off., 1975-81.

Most national commissions are funded by the Congress. In some instances, Presidential commissions may be funded indirectly through the Unanticipated Needs Account, formerly referred to as the Emergency Fund. Using this source of funding, the President subsequently accounts for such expenditures during the annual appropriation process when Congress is asked to renew this fund. However, expenditures for Presidential commissions funded in this manner are not shown separately as a line item in the Federal budget.

H. LESSONS LEARNED

While national commissions sometimes provide a beneficial and valuable means of furnishing expert advice, they have also sometimes produced final reports which do not achieve the results envisioned by the Congress in establishing them. There are several rea-

sons why this may happen, one or more of which may be present in a particular commission.

Timing of the Final Report

The final recommendations of a national commission are only advisory in nature. No changes will occur in public policy on the authority of a commission alone, no matter how comprehensive the recommendations. If they are to be implemented, commission reports must rely on the support of the Congress for statutory change or the Administration for policy change. For maximum effectiveness, a national commission needs to report to the Congress while its supporters are still in office to convert the commission's finding into legislative action. Congressional elections can radically alter an anticipated timetable for the Congress or the President.

"Runaway" Commissions

When Congress appoints national commissions to advise them in public policy, there is the risk that a commission will report findings on an issue that are contrary to the position envisioned by those who created the commission. The term "runaway" has been used in writings on the subject to describe such commissions.²²

In March 1970, the Congress enacted legislation to create the Commission on Population Growth and the American Future, composed of four Members of Congress and twenty members appointed by the President. The Commission was mandated to study the probable course of population growth and related demographic developments until the year 2000, and to assess the impact of population growth on environmental pollution and the depletion of natural resources.

Following a two-year inquiry, the Commission submitted its final report to the President and the Congress. The Commission's major conclusion was that no substantial benefits would result from the continued growth of the Nation's population and that national planning for a stabilized population was necessary. There were two recommendations that received nationwide publicity: (1) that States enact statutes allowing minors to receive contraceptive information and services and (2) for the liberalization of State laws to permit abortions to be performed on request by duly licensed physicians.

President Nixon was not pleased with these two controversial recommendations, especially in an election year. After formally receiving the final report, Mr. Nixon stated:

In particular, I want to reaffirm and reemphasize that I do not support unrestricted abortion policies. . .

While disagreeing with the general thrust of some of the Commission's recommendations, I wish to extend my thanks to the members of the Commission for their work and for having assembled much valuable information.²³

Despite the lack of Presidential support, the Commission members and advocates of the Commission's recommendations attempt-

²² Wolanin, *Presidential Advisory Commissions*, p. 93.

²³ U.S. General Services Administration, Office of the Federal Register, National Archives and Records Service, *Weekly Compilation of Presidential Documents*, Washington, U.S. Govt. Print. Off., v. 8, May 8, 1972, p. 823 [Hereinafter cited as GSA, *Weekly Compilation of Presidential Documents*.]

ed to disseminate to the public the findings of the report and the research materials. Conferences on the issues were sponsored by private organizations, and a film version of the final report was produced to stress the non-controversial aspects of the Commission's final recommendations.

Chairman John D. Rockefeller III testified before congressional hearings, and a privately financed Citizens Committee on Population and the American Future lobbied in Congress for passage of the Commission's recommendations. Although various individual Congressmen had reacted favorably to the final report, there was never a formal congressional response. The combined effect of strong Presidential opposition and the controversial nature of two of the Commission's recommendations during an election year served to diminish immediate congressional interest in the issue of population growth.²⁴

Another example of a commission that submitted controversial findings is the Commission on Obscenity and Pornography. Created by Congress in 1967, the Commission was authorized to study the effects of obscenity and pornography upon the public, particularly minors, and their relationship to crime and other antisocial behavior. According to one author, the creation of the Commission was an attempt by the Congress to do something about the pornography issue in response to angry constituents and citizen groups.²⁵

Required by the Congress to appoint the eighteen members of the Commission, President Lyndon Johnson was a reluctant participant. He referred to his appointment task as "a hot potato in a no win game." In an attempt to select persons without apparent vested interest in the pornography issue, the President and his advisers rejected requests from several outspoken anti-pornography groups that requested representation on the Commission. His final selections were, for the most part, persons with academic orientation.²⁶

In 1969, the Commission submitted its final report which concluded:

If a case is to be made against "pornography" in 1970, it will have to be made on grounds other than demonstrated effects of a damaging personal or social nature. Empirical research designed to clarify the question has found no reliable evidence to date that exposure to explicit sexual materials plays a significant role in the causation of delinquent or criminal sexual behavior among youth or adults.²⁷

President Nixon came to office in 1969, and received the final report. In a tersely worded statement, the President characterized the findings as "morally bankrupt" and concluded that he "totally reject(ed) its report."²⁸

Congressional reaction was no less adverse to the Commission's findings. On October 13, 1970, a resolution rejecting the Commission's study was introduced in the Senate by Sen. John McClellan,

²⁴ Komarovsky, Mirra, ed. *Sociology and Public Policy: The Case of Presidential Commissions*. New York, Elsevier, 1975. p. 58. [Hereinafter cited as Komarovsky, *The Case of Presidential Commissions*.]

²⁵ *Ibid.*, p. 10-11.

²⁶ *Ibid.*, p. 18-22.

²⁷ U.S. Commission on Obscenity and Pornography. *The Report of the Commission on Obscenity and Pornography*. Washington, U.S. Govt. Print. Off., September 1970. p. 139.

²⁸ GSA, *Weekly Compilation of Presidential Documents*, v. 6, Oct. 24, 1970. p. 1454.

and was adopted by a vote of 60 to 5. S. Res. 477 stated that the Commission failed to carry out the mandate of Congress and specifically rejected its major recommendations:

Sec. 2. The Senate declares that—

(1) generally the findings and recommendations are not supported by the evidence considered by or available to the Commission; and

(2) the Commission has not properly performed its statutory duties nor has it complied with the mandate of Congress.²⁹

Followup

A 1975 General Accounting Office (GAO) study expressed the need for a more effective system of analysis and implementation of study commission recommendations:

The evaluation of commission recommendations should lead to affirmative action on recommendations with which the executive branch agrees or to legislative proposals if congressional action is needed to provide new authority or modify existing legislation.³⁰

The GAO also faulted final commission reports for not being specific enough in their final recommendations as to what remedial action should be taken and by whom. One study of commissions showed that final recommendations which required a specific legislative response by Congress are more effective than those that merely state general policies.³¹

Assessing the Contributions

As this report shows, a realistic evaluation of any commission and its recommendations must take into account certain factors. Given the short life span of most commissions, it is frequently a difficult task to adequately study a problem before preparing a final report. In a case where the commission members must rely upon a staff that may not be able to present them with evidence clearly supporting one position or another, the members are more likely to rely upon their own frames of reference in drawing conclusions and making recommendations. This may result in a lack of consensus among commission members, which in turn manifests itself in a divided report. The policymaking value of a final report may be diminished to the Congress if a prestigious group of commission members are unable to recommend a unanimous course of action.

As stated earlier, follow-through on commission reports must rely primarily on the support of the Congress, if statutorily created. A final commission report is unlikely to achieve success if it is overly critical of or demonstrably in disagreement with the Congress which appointed it. The political feasibility of a commission's recommendations will always be taken into account by the Con-

²⁹ Congressional Record, Oct. 13, 1970, p. S17904.

³⁰ U.S. General Accounting Office. Better Followup System Needed to Deal with Recommendations by Study Commissions in the Federal Government; Report to the Congress by the Comptroller General of the United States. RED-76-33. Washington, U.S. Govt. Print. Off., 1975. p. 16-18.

³¹ Tutchings, Terrence R. *Rhetoric and Reality: Presidential Commissions and the Making of Public Policy*. Boulder, Colorado, Westview Press, 1979. p. 83.

gress or the President before supporting a commission's recommendations.

I. CONCLUSION

In conclusion, a national commission is but one source of policy advice available to the Congress or the President. There are circumstances under which commissions appear most appropriate:

Proposing solutions to a specific problem that requires a redefinition of existing policy;

Mobilizing public support to a new policy proposal; and

Offering recommendations which can be implemented by specific legislative, executive, or even private sector responses.

The success or failure of national commissions may be measured in a number of ways. The final report must provide more than broad and sweeping recommendations. It must also contain specific, concrete proposals. Commissions are created to advise, and if a commission is concerned about its findings being politically acceptable to the Congress or the President, it must keep this in mind. In the final analysis, national commissions appear to have been most successful in situations where the Congress desires new policy directives and is in a position to effectuate the final recommendations.

Commissions conducted during the last century on population, natural resources, environment, and related subjects have been for the most part Presidentially—not congressionally—initiated, although they have advised both the President and the Congress.³² In an instance where a commission is created by statute and required to report to the Congress and the President, strong Presidential opposition to a commission's final recommendations creates a political climate likely to be unfavorable to legislative action.

Analogously, the outcome of recommendations from advisory bodies created by the Congress for itself are likely to be affected by the perceived need for the Commission and its work, by the support or opposition of the congressional leadership and of key committees and their chairmen, and by the general political climate. The short life of the Institute for Congress, which is discussed elsewhere in this volume, and the outcome of the recommendations from the Culver and Obey Commissions are illustrative.

Finally, in considering the advisory commission form for organizing ways to augment the information, analysis, and recommendations Congress receives, it may be appropriate to examine the extent to which contributions a commission could make to the legislative processes can be made by resources already available to Congress.

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CHAPTER 14. LESSONS FROM THE PAST ¹

(By Robert Cahn and Patricia Cahn)

A. INTRODUCTION

A study of the world's population, natural resources, and environment, made at this juncture, must be viewed in historical perspective. If the study is to serve as a foundation for the nation's longer-term planning, as directed by the President, it must take cognizance of the similar major efforts that have gone before and consider their strengths and weaknesses. Experiences of the past have much to teach us about what arrangements will and will not lead to quality analysis, decisions, and actions addressed to important long-term issues. This appendix will briefly examine studies, commissions, and institutional efforts conducted during this century on population, natural resources, environment, and related subjects to see what lessons can be learned from these experiences that might be applicable today. Commissions reviewed in this appendix have in common high-level governmental connections and include for the most part presidentially appointed or designated groups looking into national and international issues concerned with population, natural resources, or the environment.

There has never been an organized, continuing effort in the federal government to take a holistic approach toward consideration of probable changes in population, natural resources, and the environment. Yet a number of attempts to tackle parts of the problem have been undertaken during the last 70 years. Starting with the second Theodore Roosevelt Administration, continuing through 10 years of Franklin D. Roosevelt's Administration, and during the 25 years from Truman to Ford, temporary presidential and congressional committees, commissions, and boards have flowered and wilted from time to time. For the most part, this futures work covered the nation's natural resources and materials and produced results that have proved helpful in some measure. Rarely, however, did such groups consider global potentials and problems, and then only superficially.

Over the years, government has tended to wait until crises occur and then has reacted to them—rather than study and analyze issues beforehand. On those occasions when groups have addressed problems with an eye to the future, a President—and others who initiate such studies—have seldom sustained the original level of interest, although much valuable data has been developed, alternative choices have been explored, and options have been presented in the form of recommendations. In most cases, suggestions or recommen-

¹ Taken from the *Global 2000 Report to the President*, Gerald B. Barney, Study Director. P. 685-712 (Appendix A).

dations have been made for the formation of an institution to carry on the work of looking at future problems, but none of the recommendations has led to establishing a permanent group. Thus decisionmakers and the public have never had the benefits that would accrue if a long-range study group at a high level of government, free from pressures for immediate results, had been in existence to offer alternatives that might help avert or solve future difficulties.

B. HISTORICAL PERSPECTIVE, 1908-1967

THE THEODORE ROOSEVELT ADMINISTRATION

National Conservation Commission (1908). Even as far back as the first decade of the 20th century, when natural resources seemed virtually inexhaustible, a few conscientious conservationists were looking into the future to a time of scarcities and shortages. "The Nation is in the position of a man, who, bequeathed a fortune, has gone on spending it recklessly, never taking the trouble to ask the amount of his inheritance, or how long it is likely to last." That picture, probably overly grim for its time, was painted at the initial meeting in 1908 of the executive committee of the newly appointed National Conservation Commission. The group promptly agreed to have a study made to estimate the existing available natural resources, the proportion that had already been used or exhausted, the rate of increase in their consumption, and the length of time these resources would last if the present rate of use was to continue. Thus began the first national inventory of natural resources.

President Theodore Roosevelt created the Commission as an outgrowth of the May 1908 White House Conference on Natural Resources. He appointed 49 members, with about equal representation among scientists, industry leaders, and public officials, but when the President requested funds of Congress to carry out the inventory, the Senate voted down the bill. Nevertheless, by presidential order Roosevelt directed the heads of several bureaus to make investigations as requested by the Commission in the areas of minerals, water resources, forests, and soils.

The full Commission met on December 1, 1908, to hear the reports of experts, which were later transmitted to the President in three volumes. This first inventory of the nation's natural resources was "but an approximation to the truth," wrote resource expert Charles Richard Van Hise in 1911. "But it is an immense advance over guesses as the natural wealth of the nation... [and] furnishes a basis for quantitative and therefore scientific discussion of the future of our resources." The Commission's report was published as a Senate document in a limited edition. (The Commission's recommendation for a popular edition had been turned down by the House Committee on Printing.)

Before leaving office, President Theodore Roosevelt sought to broaden interest in the conservation of resources beyond U.S. boundaries. He invited the governors of Canada and Newfoundland and the President of Mexico to appoint Natural Resource Commissioners and send representatives to a meeting with his National Conservation Commission. At this first North American Conserva-

tion Conference, held in Washington, D.C., in February 1909, a Declaration of Principles was issued, and the founding of permanent conservation commissions in each country was recommended.

In a separate action, President Roosevelt requested all the world powers to meet at The Hague for the purpose of considering the conservation of the natural resources of the entire globe. Efforts to institutionalize concern for preservation of natural resources faded, however, after William Howard Taft became President in March 1909, and the international conference was never held.

The intense congressional opposition accorded these efforts resulted not so much from objections to the subject matter as from reaction to what the legislators regarded as the President's attempt to bypass Congress by appointing too many presidential commissions. The opposition prevented the National Conservation Commission and its inventory of resources from becoming a congressionally mandated effort. Gifford Pinchot, whom Roosevelt had appointed as head of the National Conservation Commission, did keep the Commission alive, but without President Taft's approval and at his own expense, and the Commission evolved into a kind of private lobby for conservation.

THE HOOVER ADMINISTRATION

President's Research Committee on Social Trends (1929). The first organized effort in the area of social reporting was made in the autumn of 1929, when President Herbert Hoover appointed a President's Research Committee on Social Trends. The six-member committee, chaired by Wesley C. Mitchell, included Charles E. Merriam (who, with Mitchell, was to become a member of Franklin D. Roosevelt's original three-man National Planning Board) and William F. Ogburn, who was designated director of research. The Committee was called upon "to examine and report upon recent social trends in the United States with a view to providing such a review as might supply a basis for the formulation of large national policies looking to the next phase in the Nation's development." The Committee issued annual reports, under the editorship of Ogburn, for five years—until the end of the Hoover Administration in 1933.

Ogburn then published a book, *Recent Social Trends*, comprising a report by the Committee, to which a group of papers by experts had been added. In a Foreword, dated October 1932, Hoover wrote: "It should serve to help all of us to see where social stresses are occurring and where major efforts should be undertaken to deal with them constructively." The Committee claimed that the importance of their reports and of the book was in the effort to interrelate the disjointed factors and elements in the social life of America and to view the situation as a whole.

Many government organizations and private citizens contributed to the study, but the work received its major funding from the Rockefeller Foundation. The book did not take up war, peace, or foreign policy, nor did it mention the economic situation that was developing into the Great Depression, and there was no chapter devoted to social science research itself. The topics discussed were population, utilization of natural wealth, the influence of invention and discovery, communication, shifting occupational patterns, the

rise of metropolitan communities, the status of racial and ethnic groups, the family and its functions, the activity of women outside the home, childhood and youth, the people as consumers, health and medical practice, public welfare activities, and government and society.

In a 1969 article, social scientist Daniel Bell, harking back to *Recent Social Trends*, commented on the report's chapter on medicine, which dealt with the rise of specialized medical practice, the divergence between research and general practice, and the consequences of geographical concentration. If the signposts in that chapter had been heeded, he wrote, they "would have gone far to avert the present crisis in the delivery of health care." Bell also claimed that the chapter on metropolitan communities was an accurate foreshadowing of postwar suburban problems.

THE FRANKLIN D. ROOSEVELT ADMINISTRATION

National Planning Board; National Resources Board; National Resources Planning Board 1933-43. For the first 10 years of Franklin D. Roosevelt's Presidency, the availability of natural resources to meet future needs for at least six years ahead was a primary consideration of the National Resources Planning Board and its two predecessor organizations. Two special commitments of the President—conservation of natural resources and government planning to achieve social goals—were linked in Roosevelt's use of this Board.

The effort started in 1933 when a National Planning Board was established under Interior Secretary Harold Ickes' Public Works Administration to coordinate the planning of public works projects. The President's uncle, Frederick Delano,² was a Board member along with political scientist Charles Merriam and economist Wesley Mitchell. The following year, when Congress by joint resolution asked the President for a comprehensive plan for the development of the nation's rivers, Roosevelt sought to make the Planning Board a part of the White House and to give it the lead role in the river-planning project. Ickes, aided by other Cabinet officers, fought the President's idea, and a compromise resulted in the so-called National Resources Board, its six Cabinet officers under Ickes, as Chairman, outnumbering the three members of the former Planning Board.

In December 1934, the new Board produced an extensive report. Its almost 500 pages, the Board claimed, "brings together for the first time in our history, exhaustive studies by highly competent inquirers of land use, water use, minerals, and related public works in their relation to each other and to national planning." The report addressed itself to such problems as "Maladjustments in Land Use and in the Relation of Our Population to Land, and Proposed Lines of Action." It also included an inventory of water resources, a discussion of policies for their use and control, recom-

² Delano had been chairman of a privately funded citizens study of the Joint Committee on Bases of Sound Land Policy, which in 1929 issued a 168-page report *What About the Year 2000?* This was an economic summary of answers to the questions: "Will our land area in the United States meet the demands of our future population?" and "How are we to determine the best use of our land resources?"

mendations for a national mineral policy and a discussion of its international aspects.

The December 1934 report to the President pointed to the significance of the recommendations from the two technical committees that had assisted in preparing the report—one on land-use planning and one on water planning. Both committees recommended the need for a permanent planning organization. The report repeated a recommendation of the former Planning Board that a permanent national planning agency be established. In defense of planning, the report stated:

It is not necessary or desirable that a central system of planning actually cover all lines of activity or forms of behavior. Such planning overreaches itself. Over-centralized planning must soon begin to plan its own decentralization, for good management is local self-government under a central supervision. Thus wise planning provides for the encouragement of local and personal initiative.

Bills to institutionalize a national planning agency were defeated in Congress during the next four years, with opposition coming from antiplanners in Congress, from within the Administration (notably the Army Corps of Engineers, the Forest Service, the Tennessee Valley Authority, and the Bureau of Reclamation), and from a powerful lobbying group known as the Rivers and Harbors Congress.

Finally, in 1939, after Roosevelt had succeeded in getting his executive reorganization plan through Congress and establishing an Executive Office of the President (without the planning agency, of which Congress unrelentingly disapproved), he reconstituted his planning group into the National Resources Planning Board and placed it in his Executive Office by presidential order. Although this action was unpopular with Congress, Roosevelt used his personal influence to get about \$1 million a year appropriated for the Board's activities.

From 1934 to 1939, Delano, Merriam, and Mitchell had continued to serve as a planning board and as planning advisers to the President. As members of the revised National Resources Planning Board, the three established a number of technical committees and a field organization. By 1943 the Board had 150 full-time Washington employees, 72 field employees, and 35 per diem consultants. As its staff proliferated, however, it lost much of the influence it had gained as a coordinating body and became merely one agency among many. It met formally with the President more than 50 times, and held many informal meetings for discussion of long-range problems. Its proposals, however, did not ordinarily include detailed recommendations for implementation, and the Board did not strive for action. In 1939, when World War II began, the Board shifted its priority to postwar planning. After the 1940 election, President Roosevelt instructed the Board "to collect, analyze, and collate all constructive plans for significant public and private action in the post-defense period insofar as these have to do with the natural and human resources of the Nation."

Although Roosevelt had been the Board's chief (and sometimes its only) power base, he finally became resigned to the fact that it could not be permanently established and in 1943 signed an appropriations bill directing that the National Resources Planning Board

be abolished and that its functions not be transferred to any other agency.

During the 10 years of their existence, the Board and its predecessors issued numerous research publications, including extensive data collections and studies of many national problems. They conducted statistical and analytical studies on subjects such as river basin development and frequently aided some federal agencies in getting their ideas up to the President. More than 300 publications reveal how Roosevelt's boards had expanded from natural resource studies and planning into other futures efforts and subjects that had largely been neglected.³

Part of the Roosevelt boards' poor relations with Congress derived from the members' belief that as a staff arm of the President they should not develop close relationships with Congress. The National Resources Planning Board gave little encouragement to members of Congress who were sympathetic, and its work (some Congressmen thought) enhanced the power of the Presidency unduly and contributed to loss of power by Congress.

THE TRUMAN ADMINISTRATION

President's Materials Policy Commission (1951). After the high rate of consumption of natural resources, especially minerals, during World War II, potential scarcities of industrial materials threatened the nation. Then the Korean War caused prices of materials to rise sharply, and the fact that the nation's resources strength was indeed limited became increasingly recognized. On the recommendation of W. Stuart Symington, then chairman of the National Security Resources Board, President Harry S. Truman created the President's Materials Policy Commission in January 1951. He charged the new Commission to "make an objective enquiry into all major aspects of the problem of assuring an adequate supply of production materials for our long-range needs and to make recommendations which will assist me in formulating a comprehensive policy on such materials." In a letter to Commission Chairman William S. Paley (Columbia Broadcasting System Board Chairman), President Truman wrote: "We cannot allow shortages of materials to jeopardize our national security nor to become a bottleneck to our economic expansion."

When the President called Mr. Paley and the four other members of the blue-ribbon citizen Commission to his office late in January 1951, he included in his directions the need to make their study international in scope and to consider the needs and resources of friendly nations. The 18-month study was the most comprehensive of its type ever done. Seven Cabinet departments and 25 federal agencies or commissions made special investigations, loaned personnel, and gave consulting help. Research assistance was provided by 20 universities, as well as by experts from more

³ Significant titles include: Economics of Planning of Public Works; Human Resources; Trends in Urban Government; Rural Zoning; Our Cities, Their Role in the National Economy; Technology and Planning; Consumer Incomes; Problems of a Changing Population; A Plan for New England Airports; Urban Planning and Land Policies; Housing Progress and Problems; War-Time Planning in Germany; Rates and Rate Structure; Transportation Coordination; Railroad Financing; After Defense-What?; The Future of Transportation; The Framework of an Economy of Plenty; and Post-War Problems of the Aircraft Industry.

than 40 industries, the International Materials Conference, the International Bank for Reconstruction and Development, and the International Monetary Fund.

The resulting 5-volume report, *Resources for Freedom*, published in June 1952, contained some far-reaching recommendations, but it did not create any great public splash, nor did it have an immediate effect on national policy. It was, however, the first major study to perceive the resources situation as a problem not of absolute shortages but of dealing with rising "real costs," which would be at least as pernicious than shortages. In retrospect, it is easy to see that the Commission neglected several areas now perceived as vital, such as population trends and environmental factors relating to the new technological developments that the Commission assumed would alleviate many future shortage problems. While the report emphasized the danger of increased U.S. dependence on foreign sources of raw materials, it saw as the main problem the technical difficulties of obtaining materials from less developed countries without first considering the trade or political factors that might block access to the resources.

The Commission's inventory of resources, its studies, and its projections for the ensuing 25 years were extremely valuable, and a number of its recommendations were prescient. In projecting materials availability a quarter of a century ahead, it proved remarkably accurate in several areas. The Commission recommended that the nation should have "a comprehensive energy policy and program which embraces all the narrower and more specific policies and programs relating to each type of energy and which welds these pieces together into a consistent and mutually supporting pattern with unified direction."

The concluding chapter of the Commission's first volume addressed the problem of "Preparing for Future Policy." It stated that no single study by a temporary group can deal adequately with the immensely complicated situation "cutting across the entire economy, persisting indefinitely, and changing from year to year."

The report recommended that a single agency—not an operating agency—should survey the total pattern of activities in the materials and energy field, make periodic reports to industry, the public, and to the legislative as well as executive branches of government and be an advisory body located in the Executive Office of the President, framing recommendations for long-range policy (as much as 25 years ahead). The Commission somewhat perfunctorily recommended as a possible solution that the existing National Security Resources Board (NSRB) in the Executive Office of the President serve this function. The NSRB could, if given funds and authority, collect in one place the facts, analyses and program plans of other agencies on materials and energy problems. The Board could also evaluate materials programs and policies in all these fields; it could recommend appropriate action for the guidance of the President, the Congress, and the Executive agencies, and report annually to the President on the long-term outlook for materials, with emphasis on significant new problems, major changes in outlook, and necessary modifications of policy or program. The Paley

Commission suggested that to the fullest extent consistent with national security, the annual reports should be made public.

The Paley Commission report reached President Truman in June 1952. By then the resources scarcity issue had lost its political priority and failed to arouse public's concern. Truman took the logical step of directing the NSRB to review the report and its recommendations and to advise him of follow-up actions deemed appropriate. He wrote to NSRB Chairman Jack Gorrie on July 9, 1952, asking the Security Resources Board to initiate a continuing review of materials (including energy) policies and programs within the executive branch, along the lines recommended by the Commission, and report annually to the President on the progress of materials programs and policies and the long-term outlook for materials, with emphasis on significant new programs.

The NSRB had been established within the Executive Office of the President under the National Security Act of 1947, and its function was to advise the President on the coordination of military, industrial, and civilian mobilization. Thus, many of its activities were concerned with materials. Serving on the Board were the Secretaries of Agriculture, Commerce, Interior, and Labor and the heads of the National Security Agency, the Defense Materials Procurement Agency, and the Defense Production Administration.

NSRB Chairman Gorrie submitted his report to President Truman in 1953, six weeks before Truman left office. It included a recommendation for the President to "ask the Congress to provide the NSRB with adequate funds to enable the Board to develop policy designed to improve the national position with respect to resources affecting the Nation's security, and to carry out the directives in the President's memorandum of July 9, 1952."

Truman left office without taking any action on this recommendation. The new Eisenhower Administration, committed in the election campaign to a lessening of federal intervention and a cutting back of government agencies, ignored the Commission's recommendations, and NSRB eventually faded out of existence.

Resources for the Future (1952). William Paley, foreseeing the problem posed by lack of a continuing body to carry out recommendations of the President's Materials Policy Commission, set up an office with his own funds to respond to questions about the Commission's report, to keep some of the statistics up to date, and to keep public interest alive. He established his small office in 1952 as a nonprofit corporation with the name *Resources for the Future*.

About this time, a group of conservationists, led by former National Park Service Director Horace M. Albright (who was also prominent in the mining industry) were trying to interest the Ford Foundation in establishing a fund to provide financial assistance to conservation organizations. Among Albright's 25 cosponsors was Paley, who also served on a Ford Foundation program development committee on natural resources. This committee recommended establishment of an independent resources center to provide up-to-date information in conservation and natural resources and a continuous evaluation of the long-range programs of the federal government. The committee also recommended a White House National Resources Conference, patterned after Theodore Roosevelt's 1908 Conference on Natural Resources.

As a result of these recommendations, the Ford Foundation agreed to back the conference and to set up a research center—for which purpose Paley then turned over his nonprofit corporation, Resources for the Future. At a December 1952 meeting in New York, Albright succeeded in getting President-Elect Dwight D. Eisenhower to agree to sponsor the White House Conference. But shortly after inauguration, the President's Chief of Staff Sherman Adams sought to kill the Conference because, according to Albright, Adams thought he detected a strong odor of "ex-New Dealers," idealists, and planners on the staff and board of directors of Resources for the Future. After Albright and Paley persuaded Lewis W. Douglas, former director of the Bureau of the Budget and a conservative critic of the New Deal, to serve as Conference chairman, Adams compromised. He agreed that Eisenhower would be the Conference keynote speaker but insisted that the Conference should not be sponsored by the White House. The resulting 3-day Mid-Century Conference on Resources for the Future drew 1,600 participants in December 1953. Although it endorsed no legislative or political proposals, the Conference did call attention to the need for policy changes and continuing research in resources management.

Resources for the Future carried on some of the work of the Paley Commission. Although it could not directly influence government policy and was not ordinarily international in scope, it continued to make long-range projections of the national economy based on population, the labor force, productivity, and other factors. It then tried to predict from these findings the probable resource requirements, and match them against possible supply, with attention to prices. Paley continued to serve on the board of directors and was partly responsible for the inauguration of a major study, published in 1963, *Resources in America's Future, 1960-2000*.

THE EISENHOWER ADMINISTRATION

Outdoor Recreation Resources Review Commission (1958). One of the most successful presidential commissions in recent times—in terms of getting its major recommendations implemented—was the Outdoor Recreation Resources Review Commission, which spanned two administrations. Congress passed the Act establishing the Commission in June 1958 after many years of lobbying by conservation groups. Although the Commission was not established by presidential request, Eisenhower readily signed the law and, after a delay of several months, appointed the respected philanthropist and conservationist Laurance S. Rockefeller Chairman. Eight congressmen and six public figures representing widespread interests in outdoor recreation rounded out the Commission.

Although the timing of the Commission's report of its study violated one of the basic axioms of presidential commissions (don't start a study in one Administration and present the results to a new Administration—especially an Administration of the other political party), almost everything else about the Commission was a perfect example of how a presidential commission can operate to achieve its ends. The law establishing the Commission was carefully drawn so as to involve members of Congress who could later

sponsor legislation to carry out the Commission's recommendations. The law provided for the appointment of two majority and two minority members of both the Senate and House Interior Committees. This provision ensured stability in case of changes in congressional assignments.

The law also provided for an Advisory Council composed of the Secretaries of federal departments and the heads of independent agencies with a direct interest and responsibility in outdoor recreation, as well as 25 citizen members covering most interests and geographic areas.

Chairman Rockefeller had national stature and an aptitude for working with Congress, the executive branch, and citizen groups. He attracted a bright, capable staff with administrative abilities (it included the future Governor of Massachusetts and the first head of the National Endowment for the Arts).

The research undertaken by the Commission gave a solid base to its recommendations and was valuable as well as newsworthy. The recommendations included an institution through which Commission goals could be carried out. A follow-on citizen lobbying and information activity was organized by the Commission chairman to stimulate continuous press and public interest and to work for implementation of the recommendations.

The Act creating the Commission set forth three basic goals. They were to determine: (1) the outdoor recreation wants and needs of the American people at that time and for the years 1976 and 2000; (2) the recreation resources of the nation available to satisfy those needs—for the same three periods; and (3) policies and programs that would ensure that present and future needs would be adequately met.

The Commission staff, working with federal agencies and private groups, devised a system of classifying outdoor recreation resources so as to provide a common framework and serve as a tool in recreation management. Particular types of resources and areas would be managed for specific uses such as high density recreation, unique natural areas, wilderness, or historic and cultural sites.

Five joint two-day meetings were held by the Commission with the Advisory Council, during which they made on-site inspections of the various types of federal and state recreation areas, including some where they camped out overnight. When the Commission adopted a draft of its recommendations, they submitted the recommendations to the Advisory Council for additions or changes.

The major items among the 53 recommendations of the Commission were:

- Establishment of a Bureau of Outdoor Recreation in the Department of the Interior to coordinate the recreation activities of the federal agencies, to assist state and local governments with technical aid, to administer a grants-in-aid program for acquisition planning for development and acquisition of needed areas, and to act as a clearinghouse for information.

- Development of a federal grants-in-aid program with initial grants to states of up to 75 percent of the total costs for planning and 40-50 percent of acquisition costs.

- Provision of guidelines for managing areas, with a common system of classifying recreation lands.

When the Commission report was submitted to President Kennedy by Chairman Rockefeller in January 1962, it had the unanimous

approval of the 15 commissioners. The timing of its release was propitious. The popularity of outdoor recreation was booming. Federal and state land-management agencies were finding it difficult to cope with the growing numbers of visitors, and Congress welcomed help in devising solutions.

Rockefeller did not leave implementation of the recommendations to chance or political whim. With private funds and the cooperation of the other citizen members of the Commission, he immediately established the Citizens Committee for the Outdoor Recreation Resources Review Commission Report. Two full-time coordinators were hired, both experienced conservationists familiar with congressional procedures. Working principally through citizen groups, the organization concentrated in 1963-64 on acquainting citizens with the Commission's report and stimulating discussion and resolution of public policy issues in the light of its findings and recommendations. A booklet, "Action for Outdoor Recreation for Americans," was widely circulated and served as a follow-up to the report. Leaders of the Senate and House Interior Committees who had served on the Commission introduced legislation to implement its major recommendations.

Congress created the Bureau of Outdoor Recreation in the Department of Interior to serve as a focal point for outdoor recreation at the federal level and as a liaison point for similar state and local agencies. A Land and Water Conservation Fund was established by Congress to assist states and local governments and federal agencies to acquire land for recreation. The fund was generously endowed with a share of the income from federal offshore oil revenues. In 1964, Congress passed the National Wilderness Act, providing for a national wilderness system, as recommended by the Commission.

President's Commission on National Goals (1960). A year before leaving office, President Eisenhower appointed the President's Commission on National Goals "to develop a broad outline of coordinated policy and programs to set up a series of goals in various areas of national activity." This privately financed activity was sponsored by the American Assembly (Eisenhower had requested that the effort be nonpartisan and have no connection with the government). The 10 members of the Commission were all from the private sector; Henry M. Wriston served as chairman and William P. Bundy as director of the Commission's staff. Approximately 100 people took part in discussions sponsored by the Commission, and 14 individuals submitted essays, which were subsequently published in 1960, just before Eisenhower left office.

The publication's two major sections covered U.S. domestic goals and the U.S. role in the world. There were chapters on education, science, the quality of American culture, and technological change, but there were no formal recommendations and no follow-up activity took place.

THE KENNEDY ADMINISTRATION

National Academy of Sciences Committee on Natural Resources (1963). At the suggestion of Presidential Science Adviser Jerome Weisner, President John F. Kennedy announced in a Special Mes-

sage on Natural Resources, February 1961, that he would be asking the National Academy of Sciences to undertake

a thorough and broadly based study and evaluation of the present state of research underlying the conservation, development, and use of natural resources, how they are formed, replenished and may be substituted for, and giving particular attention to needs for basic research and to projects that will provide a better basis for natural resources planning and policy formulation.

Since Detlev W. Bronk, then President of the National Academy of Sciences, lacked a background in natural resources, he appointed a Committee on Natural Resources to lead the study. The Committee consisted of 13 Academy members, one of whom also represented government, Roger Revelle, then Science Adviser to the Secretary of the Interior. Bronk did not appoint a Committee chairman but convened the organizing sessions himself and gave most of the responsibility for preparing the summary report to John S. Coleman of the Academy staff. The Committee held a number of seminars led by members of the Committee and each bringing together 20 to 30 experts from government, industry, and academia to discuss issues to be covered in seven reports: Renewable Resources, Water Resources, Environmental Resources (never completed), Mineral Resources, Energy Resources, Marine Resources, and Social and Economic Aspects of Natural Resources. After each seminar, the Committee convened for a week to revise its paper and discuss preparation of a summary document. Although Frank Notestein of the Population Council was a Committee member, no major population-related studies were undertaken. Two of the six completed reports are of special interest here. "Energy Resources" by M. King Hubbert, then employed by the Shell Development Company, estimated the nation's crude oil reserves at about 175 billion barrels. He predicted that production would peak in the late 1960s and that thereafter domestic production and reserves would decline (an estimate that has proved highly accurate). However, Interior's then Assistant Chief Geologist, Vincent E. McKelvey, had authored a study for the U.S. Geological Survey which estimated that total domestic oil reserves were on the order of 590 billion barrels. McKelvey predicted that production would not peak for many years and that scarcities would not occur for 30 years or so. As a result of this disagreement, the committee's summary report did not base its recommendations on Hubbert's projections and did not present the oil-depletion issue in a form that made clear the consequences and the course of action that should be taken if Hubbert was correct.

Gilbert White's report "Social and Economic Aspects of Natural Resources" considered the worldwide effects of population growth and distribution on natural resources and also identified the many natural resource areas that required coordination between resource development and the overall welfare of society. White stressed the need to compare demand with supply in both energy and mineral production, to determine who would bear the costs of meeting future energy requirements.

The Committee's summary report to the President made 11 major recommendations, of which the last stressed the need for a small central natural resources group within the federal government. Such a group should be capable of conducting a continuing overall

evaluation of research problems related to resources, of bringing to public attention evaluations of natural resources research needs, and of initiating and supporting research that falls outside the interests and competencies of existing agencies. The group should also provide support for international cooperation in resources research.

Submitted to the President in November 1962, the Academy report was referred to Presidential Science Adviser Wiesner, who in turn referred it to the President's Science Advisory Council and the Federal Council for Science and Technology. Whatever interest Wiesner had been able to generate at the presidential level at the beginning of the project had evaporated by the time the report was completed. Although the Academy was eventually asked to design specific programs to implement two of the 11 recommendations, no new research programs were undertaken, and no continuing institution was established.

In the opinion of John Coleman, who was responsible for the summary report, a temporary body such as the Academy's Committee on Natural Resources had little opportunity to build a constituency for its recommendations in Congress or among the public. And without supporters in positions of power or influence, there was no way to implement the findings. The Academy did, however, involve more than one hundred experts in the course of preparing the reports, and Coleman suggests that uncounted benefits came from the attention given to future research problems by these experts.

THE JOHNSON ADMINISTRATION

National Commission on Technology, Automation, and Economic Progress (1964). In the course of its work, the National Commission on Technology, Automation, and Economic Progress (established by Congress in 1964 with 14 members appointed by President Lyndon B. Johnson) considered national goals and a system of social reporting. The Commission's report to the President early in 1966 stated that formation of a national body of distinguished citizens representing diverse interests and constituencies and devoted to a continuing discussion of national goals would be valuable. "Such a body would be concerned with 'monitoring' social change, forecasting possible social trends, and suggesting policy alternatives to deal with them," the report stated. "Its role would not be to plan the future, but to point out what alternatives are achievable and at what cost." Five of the Commission members insisted on including a footnote expressing regret that the report did not explicitly recommend establishing such a national body, but nothing was done about the matter by the President or by Congress.

Public Land Law Review Commission (1965). Many observers believe that inclusion of powerful members of Congress on a commission leads to a high rate of implementation, as in the case of the Outdoor Recreation Resources Review Commission. Perry R. Hagenstein, who was appointed senior staff member of the Public Land Law Review Commission in 1965, believes that having members of Congress on a commission is no guarantee that legislative proposals may ensue.

In a paper "Commissions and Public Land Policies: Setting the Stage for Change" (presented at an April 1977 Denver Conference on the Public Land Law Review Commissions), Hagenstein wrote:

Being party to a commission's report does not bind a member to support its recommendations. Within 48 hours of the release of the [1970] Public Land Law Review Commission report, one of the Commission's influential congressional members had already denounced the report roundly and disassociated himself from some of its major recommendations. In addition, members of Congress face the realities of change too. Although only one of the 13 congressional members of the Public Land Law Review Commission failed to serve in the Congress following release of the Commission's report, six more, including the Chairman, had dropped by the wayside in the next Congress, the 93rd. Today (seven years later) only two members of the PLLRC, the Chairman of the Senate Energy and Natural Resources Committee and the House Interior and Insular Affairs Committee, remain in Congress.

Hagenstein notes that the Public Land Law Review Commission, although structured along the lines of the Outdoor Recreation Resources Review Commission, was actually not a presidential commission. Twelve of its members, plus the chairman, were chosen by Congress from Congress; there were only six presidential appointees. Hagenstein added:

Participation by the Executive Branch in this predominately congressional effort was necessary to give the Commission credibility with recreation and preservation interests and to gain a semblance of commitment to its recommendations from the Executive Branch itself. Some congressional members found it difficult to separate their public posture in committee hearings and with constituents from the private deliberations at the Commission meetings.

Timing and the political atmosphere also played a part in hampering follow-up to the Public Land Law Review Commission:

It was conceived during President Kennedy's term, the public members were appointed by President Johnson, and it reported to President Nixon. It had no home in the White House, and its recommendations, many of which were based on criticism of the way in which the laws were being administered, did not have the enthusiastic support of the public land management agencies.

Chairman [Wayne] Aspinall stated at various times that once the Commission finished its work, the next step would be up to the Congress...Some three months after the 92nd Congress convened and nine months after the Commission's report had been filed, H.R. 7211, a bill that put a number of the Commission recommendations in a cumbersome package, was introduced by Chairman Aspinall. The bill in its entirety had a constituency of one, although that one, Aspinall, was in a position as Chairman of the Interior and Insular Affairs Committee to make the bill move. Power in the Congress accumulates slowly, but erodes rapidly, and Aspinall was unable to bring H.R. 7211 to a floor vote following his defeat in a primary some weeks before the 92nd Congress adjourned. Faced with its own problems of timing, elections and politics, the Congress is not the place to center responsibility for follow-up.

Toward a Social Report (1967) and Other Studies of the Mid-1960s. Johnson's Secretary of Health, Education, and Welfare John Gardner became interested in social indicators and persuaded the President to assign to his Department the task of developing "the necessary social statistics and indicators to supplement those prepared by the Bureau of Labor Statistics and the Council of Economic Advisers. With these yardsticks we can better measure the distance we have come and plan the way ahead." Johnson so directed in his Message to Congress on Domestic Health and Education.

Under prodding from HEW Under Secretary Wilbur J. Cohen, Assistant Secretary for Planning William Gorham hired Mancur Olson in 1967 as Deputy Assistant Secretary for Social Indicators, to lead in preparing a social report. With the help of a panel co-

chaired by social scientist Daniel Bell and HEW Assistant Secretary Alice M. Rivlin, Olson sought to devise a system of social indicators—which he defined as measures of the level of wellbeing in a society—for measuring the social progress or retrogression of the nation. The study was scheduled to be completed in mid-1969, but when President Johnson announced he would not run again and Richard M. Nixon was elected, Olson rushed the study to completion ahead of schedule so it could be published before Johnson left office. The document, "Toward a Social Report," was submitted to the President by HEW Secretary Wilbur Cohen nine days before Johnson left office.

Three of its seven chapters were titled: "Health and Illness" (Are we becoming healthier?); "Our Physical Environment" (Are conditions improving?); and "Public Order and Safety" (What is the impact of crime on our lives?) A final chapter discussed the need for continuing studies of social indicators and how to apply them in formulating policy.

Although no institutional apparatus for policymaking resulted from "Toward a Social Report," one of the members of the Panel on Social Indicators, Daniel Patrick Moynihan, continued to advocate social reporting when appointed Counselor to President Nixon in 1969. Also, the Census Bureau representative to the Social Indicators Panel, Julius Shiskin, went on to the Office of Management and Budget (OMB), where he headed the staff that produced the OMB report "Social Indicators of 1973." (An updated version, "Social Indicators of 1976," was issued by OMB in December 1977.)

The mid-1960s saw two other efforts in the social area. In 1967, Senator Walter G. Mondale, supported by 10 other senators, introduced, "The Full Opportunity and Social Accounting Act," which proposed a Council of Social Advisers in the Executive Office of the President, and the publication for transmittal to Congress of an annual Social Report by the President, similar to the yearly Economic Report of the Council of Economic Advisers. The Mondale bill twice passed the Senate (in 1970 and 1972), but no action was ever taken by the House.

In the private sector, Daniel Bell organized the Commission on the Year 2000, funded by the Carnegie Corporation and run by the American Academy of Arts and Sciences. About 30 prominent social scientists and other experts concerned about preparations for the future and alternative policy choices held working sessions for three days in 1965 and for two days in 1966. During 1967 they contributed papers and participated in the discussions of eight working parties. The Commission's 350-page report, "Toward the Year 2000: Work in Progress," was widely distributed after publication as the entire Summer 1967 issue of *Daedalus*, the journal of the American Academy of Arts and Sciences.

This private-sector commission made no formal recommendations, however. According to Bell, the Commission avoided issues related to natural resources, environment, and population because there were too many variables. Instead, the Commission tried to identify technological trends in terms of a 10-year lead time. And they also looked at changes in social frameworks, such as those in a postindustrial society.

C. THE LAST DECADE

National Environmental Policy Act of 1969

Improving the quality of the environment has been the objective of a number of laws passed by Congress and executive orders issued by Presidents in the last two decades. Only one law, however, served to provide for a long-range, holistic approach to decision-making throughout the government and established an institution that had the potential, on paper at least, for advising the President on how to prepare for some of the problems of the future. This law, the National Environmental Policy Act of 1969, required "environmental impact statements" by the responsible official for all major federal actions "significantly affecting the quality of the human environment." It also provided for establishing in the Executive Office of the President a three-member Council on Environmental Quality.

The legislation was developed by congressional committees without assistance from the Nixon White House. While Congress was considering the legislation, President Nixon had established by executive order his own Cabinet-level Environmental Quality Council in May 1969.

Nixon's Council consisted of the President as Chairman, the Vice President (serving as Chairman in the President's absence), the Secretaries of six Departments--Agriculture; Commerce; Health, Education, and Welfare; Housing and Urban Development; Interior; and Transportation--and the Science Adviser to the President, who was named Executive Secretary. The general purpose of the Council was to "assist the President with respect to environmental quality matters." One of its specific duties was to "review the adequacy of existing systems for monitoring and predicting environmental changes so as to achieve effective coverage and efficient use of facilities and other resources." The Cabinet-level Council met only a few times and accomplished very little.

Congress ignored White House opposition and passed the National Environmental Policy Act in December 1969. The Act was signed into law on January 1, 1970, by the President, who subsequently dropped his Cabinet-level council and appointed three members to the new Council on Environmental Quality required by the Act.

Council on Environmental Quality

As a declaration of national environmental policy, Section 101(b) of the 1969 Act provided that: it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may--

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

(4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;

(5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities;

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

In preparing environmental impact statements, responsible federal officials were required to include:

The environmental impact of the proposed action;

Any adverse environmental effects which cannot be avoided should the proposal be implemented;

Alternatives to the proposed action;

The relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity;

Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

The Council on Environmental Quality was specifically given the duty "to develop and recommend to the President national policies to foster and promote the improvement of environmental quality to meet the conservation, social, economic, health, and other requirements and goals of the Nation" and also to assist and advise the President in the preparation of an annual Environmental Quality Report.

The annual report was to set forth such things as

Current and foreseeable trends in the quality, management and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation; and the adequacy of available natural resources for fulfilling human and economic requirements of the Nation in the light of expected population pressures.

Another section of the National Environmental Policy Act required that all agencies of the federal government should

recognize the worldwide and long-range character of environmental problems and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of the environment.

While there have been efforts over the past seven years to carry out these basic provisions of the Act, its implementation has been far less than its framers intended. Federal officials have in most cases followed the letter of the law's requirement that they consider the environmental impact of major decisions and alternative courses of action that might be better for the nation. However, only rarely have officials submitted such statements before a decision is made, as the law requires.

While President Nixon did not include the Council on Environmental Quality among his foremost advisers, he relied on it to prepare his environmental legislative program. The Council performed

other useful functions in developing major new studies, reviewing international environmental activities, coordinating domestic environmental activities, and overseeing the environmental impact statement process.

National Goals Research Staff (1969)

In July 1969, President Nixon established a National Goals Research Staff in the White House. The impetus came largely from Daniel Patrick Moynihan, then counselor to the President and head of the newly created Urban Affairs Council, operating out of the White House basement.⁴

The National Goals Research Staff consisted of a small group of experts, whose primary task was to prepare a report annually, at least until 1976, setting forth some of the key policy choices facing the nation, together with the consequences of those choices. The goals group was not a planning agency; it was to provide information and analysis so that those making decisions "might have a better idea of the direction in which events are moving, the seeming pace of those movements, and alternative directions and speeds that possibly could be achieved, were policies to be shifted in one direction or another." That statement, by Moynihan, prefaced the first report of the Goals Research Staff, published on July 4, 1970, under the title "Toward Balanced Growth; Quantity with Quality."

Moynihan had conceived of the report as a social report, rather than an inventory of natural resources or collection of statistics. In the announcement of July 1969, President Nixon said the new Goals Staff would for the first time create within the White House "a unit specifically charged with the long perspective; it promises to provide the research tools with which we at last can deal with the future in an informed and informative way." The President also said the Goals Staff would provide for "new mechanisms which can enable government to respond to emerging needs early enough so that the response can be effective."

The functions of the National Goals Research Staff were to include

forecasting future developments, and assessing the longerrange consequences of present social trends; measuring the probable future impact of alternative courses of action, including measuring the degree to which change in one area would be likely to affect another; estimating the actual range of social choice—that is, what alternative sets of goals might be attainable, in light of the availability of resources and possible rates of progress; developing and monitoring social indicators that can reflect the present and future quality of American life, and the direction and rate of its change; summarizing, integrating, and correlating the results of related research activities being carried on within the various Federal agencies, and by State and local governments and private organizations.

The President announced that the first assignment of the new group would be to assemble data that could help illumine the possible range of national goals for the nation's 1976 Bicentennial. The public report to be delivered by July 4, 1970—and annually thereafter—

⁴ Moynihan had been aiming at such a futures study since his first days in office, when he had appointed an Urban Affairs Research Committee to develop projections and forecasts with a comprehensive, long-range perspective on trends and to study the most probable longer-range consequences of major policy alternatives, as well as to anticipate developments for "an improved assessment of current priorities...useful in articulating feasible national goals."

ter--would make possible discussion of key choices and their consequences

while there still is time to make the choices effective...Only shortly beyond the 200th anniversary lies the year 2000. These dates, together, can be targets for our aspirations. Our need now is to seize on the future as the key dimension in our decisions, and to chart that future as consciously as we are accustomed to charting the past.

Even before release of the President's statement, a power struggle had arisen within the White House over who would direct this goals research: Would it be Moynihan as Executive Secretary of the Council for Urban Affairs? Or would it be Arthur Burns, also a Counselor to the President and head of the Office of Program Development? Nixon solved the controversy by naming his Special Consultant, Leonard Garment, director of the National Goals Research Staff. Garment found out about his new "job" shortly before leaving on a long trip to the Soviet Union to set up a cultural exchange program. When he returned, he brought in some futures experts, including the Hudson Institute's Herman Kahn, the Harvard Business School's Raymond Bauer, and Brookings Institution's Director Charles Schultz, to assist him in setting up the group.

Garment soon encountered difficulties in implementing his task, as funds for the project were limited, and it was necessary to borrow some of the 10 members of the staff from federal agencies. He hired Bauer as senior consultant and staff report coordinator and appointed Charles Williams of the National Science Foundation as staff director. Garment, who modestly claimed "my main job was to protect the work," had the President's ear and was able to maintain Mr. Nixon's support, although he had to bypass the normal channels to keep the President informed of the Goals Staff's activities.

One of the early ideas was to build a network among state, regional, and local planning groups in order to obtain ideas about national goals through interaction with citizens. This effort was discontinued after one public hearing because of opposition from the White House staff. The Goals Staff, however, was able to bring in consultants in various fields.

Some work was done with the Bureau of the Budget's Office of Statistical Policy in developing regularly published social statistics using available data, but this work was not published in the 1970 report. No efforts were made to include foreign policy issues, as in the Eisenhower Commission on National Goals.

The Goals Staff worked instead on a relatively few issues; it tried to define the questions, analyze the "emerging" debates, and examine the alternative sets of consequences. Garment believes that the main strength of the goals work was its bringing forward for debate some issues which were ahead of their time, such as national growth policy, revenue sharing, and technology assessment. Civil rights, the Vietnam war, and other issues with which the public was already preoccupied were entirely ignored.

Even with the program's shortcomings, the July 4, 1970, "Toward Balanced Growth" provided a springboard for national debate on a number of vital issues. The report concentrated on population growth and distribution, environment, education, basic natural sci-

ence, technology assessment, consumerism and economic choice, and balanced growth:

Confronted with the trend toward ever greater concentration of a growing population in already crowded metropolitan regions, should we accept the present trend? Or, if not, to what extent should the focus of public policy be on encouraging the spread of population into sparsely populated areas, fostering the growth of existing middle-sized cities and towns, or experimenting with the development of new cities outside of existing metropolitan areas? Given the present threat to our natural environment, how should we balance changes in patterns of production and consumption with new means of waste disposal or recycling and how should we allocate the costs? Should they be borne by producers, by consumers, by the general public or by what combination of these? How can consumer protection best be advanced without so interfering with the market mechanism as to leave the consumer worse off in the long run?

The report, published without White House or Bureau of the Budget interference, made some bold statements. For instance:

FHA and VA mortgage insurance, the interstate highway system, Federal and State tax policies, State and local land use programs, all contributed to the massive suburbanization of the last 25 years.

Defense contract awards have accelerated the population booms in Southern California and along the Gulf Coast. Agricultural research and support programs have accelerated depletion of the rural population.

These policies make individually positive contributions to society, but their collective impact may not be desirable from the standpoint of distribution of population and economic opportunity.

The discussion in the population section was even more bold:

A considerable number of population experts strongly endorse the goal of a zero rate of increase—that is, a stationary population—as soon as we can achieve it. This means that in the interest of society, all American families should have an average of two children. Even many of those who do not see the problem as pressing see this as a desirable goal.

This choice implies a significant change in public policy. It calls for a deliberate government effort to promote the reduction in the growth rate until population stability is achieved. It also implies that we must not leave the possibility of population stability to chance. It means we may have to do more than rely upon liberalized abortion laws in the States, and upon the distribution of free contraceptives to the poor, who are the focus of most U.S. family-planning programs. We may also have to devise ways of changing individual and social attitudes, governmental policies and incentives, and through these, the motivation of young people and adults in all socio-economic groups.

Even if the country elects the goal of arresting the growth of U.S. population by the end of the century, it is not at all clear whether or not the Government can bring about a societal consensus voluntarily to control the growth of the U.S. population within a generation. More active public policies might be required than "moral encouragement." Changes in tax laws and health insurance programs might help. An extreme form of an active public policy would be to regulate family size by fiat. Some persons have even gone so far as to suggest enforced sterilization when each family reaches its maximum allowance. Less drastic forms of coercion could be devised. But whatever the form, coercion in the regulation of family size is likely to be unacceptable to the American people.

Several months before publication of the report, Garment and Williams formed an ad hoc committee to evaluate the possibilities for setting up an institute or organization in the private sector that would be the equivalent of the governmental goals effort. Williams discovered that the Senior Executive Council of the Conference Board was already considering something along similar lines. At a White House meeting chaired by Garment in March 1970 and attended by a half dozen private sector leaders, the Conference Board's Executive Council agreed to study the possibility of putting together a Center for National Goals. White House officials said that President Nixon would announce formation of the institution when he issued the first National Goals Report on July 4, 1970. The private sector representatives did not believe that they could get a structure ready in so short a time. The timing problem did not develop, however, because no presidential statement was issued on July 4.

In June, a month before the Goals Research Staff's report was due to be published, the staff found out that its first report would also be its last. The President had decided to create a Domestic Council under John Ehrlichman, who felt the Domestic Council could carry on any additional goals and alternatives work. (In fact, however, it did not perform truly longrange policy analysis.)

The National Goals Research Staff was disbanded when the July 4, 1970, report was completed. Moynihan had prepared an introductory statement for the President to sign, but the President decided he should not be so directly associated with the report, and the Moynihan introduction appeared as a "statement of the Counselor to the President." The document emerged, finally, as a report from the National Goals Research Staff to the President.

The report was published just before the Fourth of July, while the President was in California, and no presidential statement was issued. Press coverage was accordingly light.

Proposal for a Center for National Goals and Alternatives (1970)

With the White House goals mission apparently ended, the Senior Executives Council, an advisory group to the Conference Board (an independent nonprofit business research organization) nevertheless decided to continue its investigation of the possibilities for a private sector effort for establishing national goals. The Council is composed of 36 chief executives, 25 of them from business and the rest from universities, foundations, and public institutions. They finance their own studies and activities and operate independently of the Conference Board. Board President H. Bruce Palmer was interested in the subject, having been one of the sponsors for the formation of the Institute for the Future. The Senior Executives Council put up \$60,000 to study the best design for such an organization, and the National Endowment for the Humanities contributed \$9,800 for the study. Willis W. Harman of the Stanford Research Institute was selected to do a 4-month analysis, assisted by representatives from Arthur D. Little Company, the Institute for the Future, the Center for a Voluntary Society, the Senior Executives Council, and Anthony Wiener of the Hudson Institute, who had been a research consultant for the National Goals Research Staff.

In December 1970, the Harman group submitted its report to the steering committee of the Senior Executives Council. The report proposed forming a Center for National Goals and Alternatives. The essential function of the proposed Center would be to address four basic issues: (1) how to understand the processes of social change, interpret the present moment in history, and anticipate the consequences of alternative actions; (2) how to explore the range of attainable social choices; (3) how best to clarify bases for value choices and goals selection; and (4) how to identify, evaluate, and implement alternative policies and strategies. The Center, at least in theory, would be free of domination by any power group; it would foster an interdisciplinary approach and would have a permanent staff as well as visiting fellows, scholars, and interns. Joint involvement of public, private, and voluntary sectors would be provided through the mechanism of a Forum that would give a broad representational base for steering the Center and would ensure objectivity and promote credibility. Forum members would select a third of the members of the Board of Trustees. The estimated budget was \$7.5 million for the first three years, and \$5 million per year after that. Two-thirds of the budget would be obtained from nongovernment sources, one-third from the federal government.

The Conference Board's Senior Executive's Council asked Erik Jonsson of Texas Instruments, former Mayor of Dallas and head of Goals for Dallas, to assess the viability of the proposal for a Center. In answer to questions raised by Jonsson's assessment, Harman prepared a paper justifying the need to discover whether the future would be more or less an unbroken extrapolation of the past, or whether, after a tumultuous period of a few decades, radical societal change would be required.

In the absence of any solid knowledge on which the nation could base its choice of a course to follow, Harman felt the Center should formulate means with which to examine national goals, priorities, and policies in both contexts. In support of the need for approaches to meet radical societal changes, he presented a table showing how "successes" of the technological era had resulted in problems for the future because they had been "too successful," inferring, that we had not prepared in advance to cope with the results. For instance:

Prolonging the life span had resulted in overpopulation and problems of the aged.

Weapons for national defense had resulted in the hazard of mass destruction through nuclear and biological weapons.

Replacement of manual and routine labor by machines had exacerbated unemployment; efficiency had resulted in dehumanization of the world of work.

Growth in the power of systematized knowledge produced threats to privacy and freedom, and erected a knowledge barrier to the underprivileged.

Affluence had increased per capita environmental impact, pollution and energy shortages.

Satisfaction of basic needs had produced a worldwide revolution of rising expectations, rebellion against nonmeaningful work, and unrest among affluent students.

Although Jonsson's review of the Harman proposal approved the technical basis of the proposed organization, some members of the Senior Executives Council raised questions, and further study was ordered in 1971 under the guidance of Robert O. Anderson, chair-

man of the Board of the Atlantic Richfield Company and new head of the Senior Executives Council. The proposal was accordingly refined to create an Institute for National Objectives--A Center for Integrative Studies of National Policies, Priorities, and Alternatives. Its 12- to 30-man Board of Trustees would include representatives from the Administration, Congress, and the National Science Foundation, and perhaps one or more governors or mayors. Involvement of public, private, and voluntary sectors would be reinforced through an Advisory Council of up to 50 members elected for 3-year terms, plus about 20 members elected by the Advisory Council itself. Business, foundations, and labor and voluntary organizations would be asked to participate in funding; half the initial \$10 million would be sought from the National Science Foundation, the National Institutes of Health, Congress, and other federal sources.

Robert O. Anderson and Erik Jonsson presented the proposal for the new Institute to the President in January 1972. Nixon agreed that something should be done. He felt that a government effort would be viewed as political, but if the Institute originated as a private organization, he would see that government funds were made available. He put John Ehrlichman in charge of Administration cooperation for the project. Nixon said that the Institute's sponsors would have to be credible and outside of politics, and that the money would have to come from several pockets.

Although some members of the Senior Executives Council still expressed reservations, \$115,000 was raised initially. Robert Anderson placed the project under Joseph Slater, head of the Aspen Institute for Humanistic Studies (Anderson serves as board chairman of the Institute), but Slater was unable to get the necessary additional funding from foundations, and the project, as proposed by the Senior Executives Council, was terminated. However, the Aspen Institute developed the concept in its own way, proposing an Institute for Analysis of Public Choices, free of all federal ties. The proposal was submitted to Nelson Rockefeller in 1973 and, according to Slater, influenced the direction Rockefeller took when he started his Commission on Critical Choices for Americans. The Aspen Institute is now seeking to turn many of its own programs toward developing analysis of choices in decision-making.

Commission on Population Growth and the American Future (1970)

In July 1969 President Nixon sent to Congress a historic first population message, recommending the establishment by legislation of a blue-ribbon commission to examine the growth of the nation's population and the impact it will have on the American future. John D. Rockefeller III, who had started the Population Council, had been urging since the early days of the Eisenhower Administration that such a commission be established. Lyndon Johnson had refused to see Rockefeller in 1964, but by 1968, he was ready to yield to pressure and established the President's Committee on Population and Family Planning, co-chaired by Rockefeller and HEW Secretary Wilbur Cohen.

The Committee established by President Johnson was not a full-blown commission. Its report, sent to the President at the end of 1968, "Population and Family Planning: The Transition from Con-

cern to Action," suggested the establishment of a presidential commission to give the problem further study. It recommended that family planning services be extended to every American woman unable to afford them. It also recommended an increase in the budgets of HEW and the Office of Economic Opportunity for the purpose of population research. The report was released without publicity in January 1969, just before Johnson left office. He did not meet with the Committee to receive the report, nor make a statement on it.

In early 1969, Rockefeller's pressure for a presidential commission was abetted by presidential Counselor Moynihan, who convinced Nixon that the time had come to face the problems of population. The President asked in his message to Congress that a Commission be assigned to develop population projections and estimate the impact of an anticipated 100 million increase in U.S. population by the year 2000. For the interim, the President called for more research "on birth control methods" and for the establishment, as a national goal, of "the provision of adequate family planning services within the next five years for all those who want them but cannot afford them." In his message to Congress, Nixon stated:

One of the most serious challenges to human destiny in the third of this century will be the growth of the population. Whether man's response to that challenge will be a cause for pride or for despair in the year 2000 will depend very much on what we do today. If we now begin our work in an appropriate manner, and if we continue to devote a considerable amount of attention and energy to this problem, then mankind will be able to surmount this challenge as it has surmounted so many during the long march of civilization.

When the Congress passed a bill in March 1970 creating the Commission on Population Growth and the American Future, President Nixon named John D. Rockefeller III chairman of the 24-member group, which included four women, two college students, three blacks, two senators, and two representatives. About 20 full-time professionals and 10 consultants supervised a 2-year effort which resulted in the release of a controversial final report in March 1972, plus seven volumes of research papers. More than 100 research projects were conducted, and more than 100 witnesses testified at public hearings in Washington, Los Angeles, Little Rock, Chicago, and New York. Additional information concerning public attitudes was obtained through a special detailed public opinion poll.

The Commission's conclusion was that no substantial benefits would result from continued growth of the nation's population:

The population problem, and the growth ethic with which it is intimately connected, reflect deeper external conditions and more fundamental political, economic, and philosophical values. Consequently, to improve the quality of our existence while slowing growth, will require nothing less than a basic recasting of American values.

The more than 60 Population Commission recommendations included:

Creation of an Office of Population Growth and Distribution within the Executive Office of the President;

Establishment, within the National Institutes of Health, of a National Institute of Population Sciences to provide an adequate institutional framework for implementing a greatly expanded program of population research;

Legislation by Congress establishing a Council of Social Advisers, with one of the main functions the monitoring of demographic variables;

The addition of a mid-decade census of the population; and

National planning for a stabilized population

These recommendations were overshadowed, at least in the publicity given them, by the recommendations that states adopt legislation permitting minors "to receive contraceptive and prophylactic information and services in appropriate settings sensitive to their needs and concerns" and "that present state laws restricting abortion be liberalized along the lines of the New York statute, such abortion to be performed on request by duly licensed physicians under conditions of medical safety." The Commission also recommended that abortion be covered by health insurance benefits, and that federal, state, and local governments make funds available to support abortion in states with liberalized statutes.

President Nixon was unhappy with the Commission report, released in March 1972 at the beginning of his re-election campaign, largely because of the recommendations on liberalized abortion and the furnishing of contraceptives to teen-agers (which in 1972 was a bigger issue than abortion). The President met only a few minutes with Mr. Rockefeller. He perfunctorily received the Commission report, but issued a statement repudiating it. No word of support was forthcoming for the stabilized population concept that he had backed in 1969.

Although all members of the Commission showed their support for the report by signing it, several members wrote minority statements about certain recommendations, especially the one on abortion. The Commission debated whether to finesse the two controversial issues, since these recommendations were not of major demographic importance. But Chairman Rockefeller felt it was only right that the majority of the Commission be able to state an opinion on all relevant issues.

"We went ahead, realizing we would get our heads cut off," said the staff director, Charles Westoff. "But we hadn't quite appreciated how much these recommendations were going to dominate the response to the report."

The timing of the report was unfortunate in that during the three years since Nixon's population message, the public had come to agree on stabilizing population growth, and the goal of the two-child family was already being achieved in the statistics.

No recommendations were made by the Commission in the resources and environment areas.

The Commission staff chose a basic methodology for its extensive research efforts, which were published in six large volumes. The research was organized basically around one simple question: What difference will it make if the U.S. population grows at a two-child per family rate, or if it grows at a three-child per family rate? This approach was adopted in all research efforts except where it was not appropriate, as in migration studies. The research documents used U.S. Bureau of the Census statistics in its projections, and extensive new data on these assumptions was supplied by the Bureau of Economic Analysis of the Department of Commerce.

Volume III, *Population, Resources and the Environment*, contained extensive research on the relative impacts of the two growth scenarios on resources and the environment. Chapters were devoted to: the economy; resource requirements and pollution levels; energy; outdoor recreation and congestion; agriculture, population, and the environment; future water needs and supplies; urban scale and environmental quality; and ecological perspectives.

The other volumes covered: *Demographic and Social Aspects of Population Growth* (Vol. I); *Economic Aspects of Population Change* (II); *Governance and Population: The Governmental Implications of Population Change* (IV); *Population Distribution and Policy* (V); *Aspects of Population Growth Policy* (VI). Research on global population and resources was not a part of the Commission mandate.

Despite the lack of White House support, Commission members and staff sought ways to disseminate to the public the findings of the report and the research materials. Chairman Rockefeller testified before congressional hearings. A privately financed Citizens Committee on Population and the American Future, formed after release of the report, took the leading role in spreading the findings; it tried to create a dialogue on the issues and lobbied in Congress for passage of some of the recommendations. It also sponsored two large conferences.

A privately financed film version of the Population Commission report, which had been in preparation for more than a year, was issued about six months after the Commission made its report and received wide distribution. It was shown over the National Educational Television network, a number of individual TV stations, and by many schools. A set of teaching materials was prepared for the classroom use. The film stressed the impacts of too much population and did not dwell on the Commission's recommendations.

The deputy director of the Population Commission staff, Robert Parke, felt that the report and the research volumes made a strong base for future efforts at meeting population growth problems. And he believed the Commission and its staff had learned at least one valuable lesson: A commission studying a controversial subject should not publish its report during a presidential campaign.

National Commission on Materials Policy (1970)

Congress legislated a new National Commission on Materials Policy in the fall of 1970 as a part of the Resources Recovery Act. Although the chief sponsor of the Commission was a Republican, J. Caleb Boggs, of Delaware, the White House did not look with favor on the Commission, and President Nixon delayed almost a year before appointing the five public members to join the Secretaries of Interior and Commerce. There were three Secretaries of Commerce during the term of the Commission. Only the first, Maurice Stans, attended the Commission meetings; the last, Frederick Dent, issued a separate statement disagreeing with many of the Commission's major recommendations. Secretary of the Interior Rogers Morton did not personally attend meetings.

Commission Chairman Jerome Klaff was head of a secondary materials processing company; Staff Director James Boyd was a former director of the Bureau of Mines and, at the time, head of a mining company. A fulltime staff of 25 was hired.

The Materials Policy Commission did not attempt a materials resources inventory and update of the Paley Commission but rather concentrated its attention on the policy area and emphasized the environmental aspects of resources problems, an area which the Paley Commission had ignored. The new Commission contracted for a study of the estimated demand for 10 commodities to the year 2000. A report was made on basic mineral stocks, reserves, production data, consumption, and exports for selected foreign countries, including the People's Republic of China, the Soviet Union, and the East European countries, none of which had been considered by the Paley Commission of 1951. A number of other reports were prepared by independent contractors.

Advisory panels from industry participated by submitting information and assisting with more than a dozen meetings and hearings conducted around the nation. Federal agencies also supplied data and analysis.

The summary report of the National Materials Policy Commission and its special publications have proved useful to a number of federal agencies and to industry. As with earlier studies, the involvement of several hundred public officials and industry participants helped to educate a sizable cadre in the need for forward-looking analyses.

The major recommendations of the Commission, when it reported to the President and Congress in June 1973, were mostly general policy directives:

Strike a balance between the "need to produce goods" and the "need to protect the environment" by modifying the materials system so that all resources, including environmental, are paid for by users. Strive for an equilibrium between the supply of materials and the demand for their use by increasing primary materials production and by conserving materials through accelerated waste recycling and greater efficiency-of-use of materials. Manage materials policy more effectively by recognizing the complex interrelationships of the materials-energy-environment system so that laws, executive orders, and administrative practices reinforce policy and not counteract it.

More specific recommendations of the Commission included creation of a comprehensive Cabinet-level agency for materials, energy, and the environment, and the formation of a joint committee of Congress having legislative jurisdiction roughly parallel to the proposed new agency.

By the time the Commission report was completed, the Commission's chief sponsor in the Senate had been defeated in a bid for reelection, and the White House, for its part, showed no interest in publicizing the report.

After release of the report in June 1973, Staff Director Boyd set up a small office on his own (with some financial help from his company) to follow through on the Commission study and to try to get some of the recommendations implemented. Much of the follow-up was done by working with members of Congress, congressional staffs, and federal agencies, with Boyd testifying at congressional hearings on the usefulness of the report and the need for implementation of some of the recommendations.

Because the report had appeared after passage of the Federal Advisory Committee Act, the Administration was required by law to at least respond to the findings. A task group and subcommittee of the President's Domestic Council drafted an executive branch re-

sponse which noted that some of the recommendations were simplistic and subjective, that some were inappropriately worded or did not reflect ongoing activities in the executive agencies, and that there was no clear ordering of priorities in the report. The White House position was that regular program activities of the Department of the Interior and the Environmental Protection Agency would accomplish most of the actions recommended by the Commission, and that a separate mechanism to insure their implementation was unnecessary. An Interior Department spokesman pointed out at a congressional hearing that many of the Commission's 177 recommendations were encompassed by nine broader recommendations in the Secretary of the Interior's June 1973 Second Annual Report under the Mining and Minerals Policy Act of 1970.

A report by the General Accounting Office (GAO) entitled "Better Followup System Needed to Deal with Recommendations by Study Commissions in the Federal Government" (RED-76-33, Dec. 4, 1975), used the Materials Policy Commission as one of its four examples.

GAO criticized the White House response document for not being specific regarding the nature and timing of the action to be taken "and therefore it cannot be considered an effective vehicle for implementing the recommendations." It pointed to one recommendation in the Commission report calling for "improved utilization and conservation of groundwater through early completion of surveys of the Nation's major aquifers, using them for planning the optimum management of ground and surface supplies, and monitoring aquifers from which substantial withdrawals are being made." The executive branch response, according to GAO, was confined to its concurrence in principle and stated that "Interior and Agriculture are working toward these ends. Increased activity will be required."

GAO added that other responses to recommendations with which the executive branch expressed concurrence or concurrence in principle described the actions to be taken in general language such as "current efforts are under way," "efforts are being made," or "interested agencies are fully involved in the question," but gave no further particulars. GAO concluded:

We believe that the results of the study on a national materials policy could have been more beneficial if it had been directed to more specific problem areas and had specified recommended actions. Also, preparation of an executive branch response, as required by the Federal Advisory Committee Act, is not enough to insure successful implementation of a study commission's report. Effective machinery for implementation and follow through must be established and monitored at the highest level in the executive branch.

One of the Commission members, University of Indiana political scientist Lynton K. Caldwell, disagreed that this Commission, or any other, should try to be too specific or try to dictate legislation. "Anyone who has been around Government knows that the surest way to kill something is to make it so specific that no one else can ever adopt it as his own," Caldwell has said. "People feel inclined to reject specific recommendations so they can come up with something that reflects exactly what they want to do."

Some observers felt that the report would have been more influential if the Commission's chairman had been more nationally

prominent. The general problem of a commission having been imposed on the President by legislation without his concurrence also worked against its effectiveness. The stated disagreements of Commission member Frederick Dent (the Secretary of Commerce) were detrimental.

National Growth Policy Reports (1972, 1974, and 1976)

Section 703(a) of the 1970 Housing and Urban Development Act directed the President, "in order to assist in the development of a National Urban Growth Policy, to prepare every even-numbered year beginning with 1972 a 'Report on Urban Growth.'" The Act called for the report to include identification of significant trends and developments, a summary of significant problems facing the nation as a result of these trends, a statement of current and foreseeable needs in the areas served by policies, plans, and programs designed to carry out an urban growth policy, and recommendations for programs and policies for carrying out the urban growth policy.

Members of the Nixon Administration opposed this part of the legislation, claiming they were working out policy for urban and national growth in their own way, chiefly through the Cabinet Committee on National Growth Policy, appointed by President Nixon and chaired by the Secretary of Housing and Urban Development (HUD) and including the Secretaries of Agriculture, Commerce, Labor, and Transportation, the Chairman of the Council of Economic Advisers, and the Director of the Office of Economic Opportunity. The Administration also disliked the Act's specific provision that the Domestic Council was to be "adequately organized and staffed for the purpose [of carrying out the legislative mandate]."

John Ehrlichman, as head of the Domestic Council, decided early in 1971 that the biennial report should be assigned to the Department of Housing and Urban Development. The resulting draft report featured a number of new housing and urban initiatives that HUD Secretary George Romney hoped to institute, with a budget-busting price tag. Ehrlichman rejected the report and had the Domestic Council revise it completely. The report the President submitted to Congress in February 1972 bore little resemblance to what Congress had envisioned. It was called a "Report on National Growth." The introductory statement explained that the term "national urban growth policy" was too narrow. Instead, the report would cover national growth policy, "recognizing that rural and urban community development are inseparably linked." The report also interpreted the 1970 Act narrowly, pointing out that the statute required only that the report "assist in the development" of national policy; it was not required to "enunciate" such policy.

Most of the 1972 report featured Census Bureau statistics about population growth and distribution, a recitation of the Nixon Administration's achievements in its first two years, and promotional descriptions of White House proposals then before Congress, including a proposed Department of Community Development, general and special revenue sharing, national land use planning, power-plant siting, and welfare reform.

Before the 1974 report was prepared, Ehrlichman sent a detailed questionnaire to the Secretaries of HUD, Transportation, HEW, and Commerce. Among the 135 questions were these:

Is there any reliable estimate of alternative futures for the country in the absence of a national growth policy?

Are there growth objectives which can safely be said to have widespread or universal support which are not being promoted by present Federal policy?

How do we define the national interest—how do we balance the relative weights of economic, social, and other considerations?

To what extent should a national growth policy attempt to achieve welfare and social goals?

The small group at HUD preparing the 1974 report was never furnished the answers to this questionnaire. They were told by the White House, only to avoid putting in any new policy recommendations. The draft went from HUD to the White House late in 1973, but no action was taken for almost a year. Then the Domestic Council under President Gerald Ford revised the draft and submitted it to Congress under the title "Report on National Growth and Development." It came out early in 1975, almost a year late, and contributed little to any analysis of future national growth problems or preparations to meet them. It listed 13 "national goals related to growth" (one sentence per goal), and stated that the policy-makers' task was to understand how and whether present and proposed actions would affect these goals. This would require "systematic review in the course of decision-making of the possible effects, not just on the mission goal of each decision-maker, but on other national goals as well; and improved evaluation of existing activities with emphasis on both attainment of the mission goal and effects on other goals."

The report concluded that such evaluation was "much easier said than done." It then suggested developing an agreed-upon set of guidelines for the decision-making process. It did not, however, produce any such guidelines.

The 1976 report, without measuring up to congressional expectations, was a decided improvement over the two earlier reports. HUD convened a technical research program and selected a 25-member federal interagency task force to help delineate growth trends, identify problems and present broad policy options. For the first time, public participation was permitted through seminars on regional growth and development held in Washington, D.C., Kansas City, and San Francisco. Also, HUD received funding with which it let a number of contracts for preparation of technical materials as the basis for public and interagency discussion. A draft report was circulated for review and comment to 35 public-interest groups, trade groups, state and local government representatives, areawide organizations and Congress, and HUD publicized the comments in a separate volume.

The 1976 report was subtitled "The Changing Issues for National Growth." While the report identified ongoing problems, it did not offer detailed analyses of their relation to the future, nor did it adequately identify the options and alternatives available. The principal recommendations for addressing the issues, the report

stated, "can be found in the Budget Message, the State of the Union Message and legislative proposals now before the Congress."

The report did, however, make suggestions for increased public participation "to provide for orderly and direct communication to the President and the Congress of a wide range of perceptions of national growth issues," and "to increase public awareness of future implications of the present policies and of the necessity to plan for the future." The report also suggested that, because federal assistance for state and local growth planning efforts is fragmented and uncoordinated, "a designated element of the Executive Branch under the auspices of the Domestic Council should accomplish the rationalization of Federal planning assistance programs and requirements across department and agency lines."

The first four chapters of the 1976 report described national trends and the changes that were appearing in the national economy and society. Another nine chapters examined broad policy alternatives in several areas of growth (such as energy impacts and promises and problems of alternative energy sources), growth consequences of environmental regulations and environmental impacts on the location of growth, choices in natural resources, transportation policy, housing policy, and balanced economic growth.

The National Forum on Growth Policy, a private organization, comprising over 40 organizations involved in business, the design professions, public interest matters, public affairs, the environment, civil rights, banking, and state and local government, sponsored a critique of the 1976 report, pointing out that the report did "not contain recommended national goals, policy or programs." It was said that the report lacked a "theoretical framework needed to interpret the meaning of the analytical information" and that it failed "to clearly articulate its assumptions and define its terms." The Forum recommended that the 1978 report should evaluate and recommend new institutions to improve the process of policy development and should focus on revitalization of the central city, national housing policy, environmental quality, and growth policy.

Hubert Humphrey, as cochairman of the Senate Joint Economic Committee's Subcommittee on Economic Growth and Stabilization, submitted to HUD a detailed critique of the 1976 report, which was longer than the report itself. Although he saw it as an improvement over the 1972 and 1974 reports, Senator Humphrey wrote that it had two great flaws:

First, even though it contains considerably more information than earlier reports, it does not really help us to understand the meaning of the information it presents.

Second, as in the past the report does not confront the high priority problem presented by the structure of decisionmaking processes that impede the formulation of growth and development policy for the United States.

Humphrey recommended that the timing of the report be changed so that it would be ready for each new Congress, that future reports contain important research findings and relevant policy recommendations presented elsewhere by the Administration, that the growth report receive wider distribution, and that future reports give increased attention to the problem of improving public access to the growth policy planning process.

"The fundamental issue in growth policy today is that the Federal Government, in both its legislative and executive branches, is not structured in such a way that it can systematically assess long-range policy and program questions or estimate long-range impacts of current decisions," stated Humphrey and Senator Jacob Javits in a Joint Economic Committee document that reviewed the 1976 report. They added: "There is growing concern about the performance of Government, in part because of Government promising more than it can deliver. We believe that this public concern is the result of an awareness on the part of the public that the Federal Government has failed to develop the capacity to make public policy decisions in a rational, informed, future-oriented, and coherent way."

One HUD official involved in the biennial reports said that such one-shot studies were highly inadequate. An institution vested close to the President, he believed, should be created for long-range studies and planning. The institution should be in a position to cycle major presidential initiatives, like the state of the union address and the budget, through its members for response and policy suggestions. The group should also be in a position to consult with state and corporate leaders and with members of Congress.

For the 1978 report, the Democratic Administration recommended a revision of the 1970 Housing and Urban Development Act in order to convert the biennial urban growth report into a national urban policy report. This change was made to reflect the patterns of population and job movements and the continuing decline of some older established cities since the 1970 Act.

The President appointed the HUD Secretary in March 1977 to head a federal working group that would formulate the urban policy and recommendations for national government action. Participating agencies included HUD, The Departments of Treasury, Labor, Transportation, and Commerce, The Environmental Protection Agency, Community Services Administration, ACTION, and The Law Enforcement Assistance Administration. Involvement of nonfederal groups was extensively sought and encompassed the views of state and local officials, civil-rights, labor, and corporate leaders, public-interest and volunteer groups, businessmen and businesswomen, and private citizens.

The President announced on March 27, 1978, a comprehensive urban policy, based on the working group's recommendations and extensive White House discussion with many interest groups, congressional representatives, and the public.

The urban policy set forth a framework of concern for urban areas with special emphasis on remedial actions to help the older, more distressed communities as well as preventive actions to avoid hurting them in the future.

Workshop on Alternative Energy Strategies (1974)

The Workshop on Alternative Energy Strategies (WAES) was a private sector initiative that included government and business decision-makers from 15 countries. It is included here as one of two nongovernmental examples of such a group because it offers some valuable insights into organizing for effectiveness on an international scale.

Over a 3-year period ending in 1977, the Workshop produced the first energy assessment to the year 2000 on a nearly global scale (communist countries were not included). The project was led by Carroll L. Wilson of the Massachusetts Institute of Technology and supported by a number of private philanthropic foundations, three corporate foundations, and the National Science Foundation.

Wilson had, in recent years, initiated and led a number of other studies such as the "Study of Critical Environmental Problems" (1969) and "Man's Impact on Climate" (1970). He concluded, however, that while these and similar studies received recognition in academic circles, they were not adequately presented to decision-makers.

The Workshop on Alternative Energy Strategies was born of Wilson's belief that more effective mechanisms were needed for the study of critical global problems. He selected energy as the study topic because he felt the world was moving steadily, and with little apparent concern, toward a new and massive energy crisis. The catalytic ingredient of this new study was its use of people who had major standing in their own communities and who had access to a network of influence in their own country.

Wilson assembled people who, rather than being technical experts in energy, were high-level representatives of large energy users or producers or government officials having some responsibility for energy policy. Participants were from Canada, Denmark, Finland, France, Germany, Iran, Italy, Japan, Mexico, the Netherlands, Norway, Sweden, the United Kingdom, the United States, and Venezuela. One-third of all the participants were from government.

Each participant was required to choose and provide funding for at least one associate who could work nearly full-time for the Workshop and secure the necessary data and technical expertise for his country. Associates met 13 times for 1-2 week sessions over a period of 28 months. Participants met seven times, 2-4 days at a time. The goals of the study were:

- To develop a useful method of projecting national supply and demand for energy;

- To study supply and demand to 1985 and 2000 for the countries participating in the Workshop which, together, consume most of the world's energy;

- To develop a method for estimating global production of oil, gas, coal and nuclear power; and

- To determine whether and when prospective global shortages of certain fuels are likely to occur and how rapidly they might grow.

The report, published in a book, *Energy: Global Prospects 1985-2000*, contained conclusions but did not make recommendations.

From the start, the project participants kept in mind the need for adequate dissemination of the findings. Most members briefed the editorial boards of the leading newspapers in their countries in advance of the release of the report. Press conferences were held on the same day in the capitals of the countries. Wilson testified before energy hearings in Congress, and participants from several other countries communicated the information to their governments or to the private sector.

International Institute for Applied Systems Analysis (1972)

A unique institution with a holistic approach to common problems that cannot be solved by any single country alone is the International Institute for Applied Systems Analysis (IIASA). The Institute is situated near Vienna, Austria, and supports about 100 research scientists. It is considered nongovernmental because its members are scientific institutions from the participating nations and not the political entities of the governments themselves. It was founded in October 1972 on the initiative of the academies of science or equivalent institutions in 12 industrial nations, both East and West (institutions from five other countries have since joined the institute). The Academy of Science of the U.S.S.R. and the U.S. National Academy of Sciences (funded through the National Science Foundation) contribute the largest part of the financial support, and private sources such as philanthropic or corporate foundations contribute about \$1 million a year.

IIASA's programs are classified as either "global" (programs that affect and can be resolved only by the actions of more than one nation) and "universal" (those that affect and can be resolved by actions of individual nations but which all nations share). As the name of the Institution indicates, its scientific research and study concentrate on applying modern methods of analysis to contemporary problems of society, using the tools of modern management, such as systems theory, operations research, and cybernetics. Emphasis is placed on attempting to bridge the gap between scientists and decision-makers. The results of studies are widely communicated through publications distributed by member scientific institutions, and an effort is made to inform the nonexpert of the results of studies of international problems.

Two current major global projects are on energy systems and on food and agriculture. The energy project is concentrating on finding strategies for the transition over the next 15 to 50 years from an energy economy based on oil, gas, and conventional coal to an economy based on the virtually inexhaustible resources—solar, nuclear, and geothermal—as well as to some extent on new sources of coal. Research activities include studying systems implications of the exploitation of scarce energy resources; energy demand studies, such as one that projects global energy demand with regard to the development of regions, world population growth, and changes in lifestyle; and a study of strategies relating the nuclear-risk problem to decision-making. The final energy project report is expected in 1979.

Although IIASA is composed of scientific representatives from industrial nations, the food and agriculture program is concerned also with a number of less developed countries (LDCs) that have agricultural economies. The program objectives are to evaluate the nature and dimensions of the world food situation, to study alternative policy actions at the national, regional, and global level that may alleviate existing and emerging food problems, and to determine how to meet the nutritional needs of the growing global population.

Typical projects include developing a model of the dynamic interdependence between migration and human settlement pat-

terns and agricultural technology, identifying and measuring the environmental consequences of water use in agriculture as constraints on agricultural production, and modeling the agricultural structures of some pilot LDCs—describing their agricultural policy objectives and devising planning models suitable for estimating the consequences of alternative national policies.

National Commission on Supplies and Shortages: Advisory Committee on National Growth Policy Processes (1975)

Another Nixon-Ford era initiative in the materials field with a major institutional objective was the Commission on Supplies and Shortages and its separate Advisory Committee on National Growth Policy Processes. These activities, like the 1971-73 National Commission on Materials Policy, were conceived by Congress. During 1974 Senate Majority Leader Mike Mansfield pushed for legislation that resulted in creation of the National Commission on Supplies and Shortages. He drew support from other members of Congress concerned with the 1973-74 oil crisis as well as shortages of other materials in the early 1970s. They believed that the shortages were a symptom of inadequate preparation by government and that existing institutions were not doing enough to identify and anticipate such shortages. They were also concerned that the data on materials being collected in various agencies of the government, were not being systematically coordinated and transmitted to the appropriate agencies and to Congress.

However, Senator Mansfield's concern reached beyond shortages of materials. As Majority Leader, he had become increasingly troubled and frustrated over the inability of government to identify resource availability problems in a timely fashion and to suggest alternatives for dealing with them. Mansfield felt so strongly about this that he worked with Republican Senate leader Hugh Scott to get cooperation from the White House for the legislation and to work out an arrangement for making appointments to the Commission in a way that would be satisfactory to President Nixon, who was not enthusiastic over the new Commission. After a number of meetings, the White House agreed to back the bill, which would give the President the opportunity to appoint 9 of the Commission's 14 members, 4 to be senior officials from the executive branch and 5 private citizens selected in consultation with the Majority and Minority Leaders of the Senate.

The original idea was for a 6-month study using existing data but focusing on institutional changes that could aid in examination and anticipation of shortages. When the enabling legislation went to the floor for passage, however, it provided for a one-year study. On the day the bill was to be voted on in the Senate, Hubert Humphrey introduced an amendment to add a Citizens Advisory Committee and expand the list of study areas beyond materials and into almost all parts of the Government. Humphrey's purpose was to develop recommendations for establishing a more adequate economic policymaking process and structure within the executive and legislative branches.

For years, Humphrey had been interested in getting better institutional arrangements for developing economic policies and alternatives to deal with future problems. Earlier in 1974, as part of a

Humphrey legislative proposal for a Balanced National Growth and Development Act, the Senator had proposed a National Citizens Council on the American Future.

When Humphrey introduced his amendment to the Mansfield bill, the Majority Leader opposed the surprise amendment because he thought it would unnecessarily burden his bill. But Humphrey was insistent, and Mansfield eventually agreed to a watered-down version of the amendment. When the amended bill was approved by the Senate, many observers believed the Humphrey-proposed Advisory Committee would be eliminated in a Senate-House Conference.

For several weeks a good deal of political maneuvering took place as presidential support for the Mansfield bill waned. White House officials felt that another presidential commission was unnecessary. Late in September, however, Mansfield used the tactic of offering the entire bill, which already had passed the House, in the form of an amendment to another bill to change the Defense Production Act of 1950. The strategy worked, and the Congress approved the Mansfield-proposed National Commission on Supplies and Shortages, along with its Advisory Committee on National Growth Policy Processes, as part of the defense bill. President Ford signed the legislation in September 1974, a few weeks after taking office.

After almost a year's delay, resulting from the inability of the White House to come up with selections for the five private-sector members, the Commission finally got under way in September 1975. Donald Rice, president of the Rand Corporation (a former assistant director of the Office of Management and Budget), became chairman.

Many of the administration and congressional members of the Commission did not personally attend Commission meetings, which were held every six weeks or so; they sent delegates instead. The early Commission meetings were not announced in the *Federal Register*, although ostensibly they were open to the public. Later meetings, at which decisions were made, were open only to Commission members.

The Commission did not attempt any new data collection or make supply and demand projections into the future. Instead it analyzed available information, concluding that "we see little reason to fear that the world will run out of natural resources during the [next] quarter century."

Nine case studies were prepared that examined the causes of shortages in certain materials during the 1973-74 period. The Commission's major recommendations were for improvement of data collection and analysis in specific government agencies, with emphasis on line agencies. On the subject so important to Senator Mansfield—a new institution for policymaking—the Commission wound up recommending the creation within the Office of Management and Budget of a unit of 20-30 "sectoral and industry specialists" to monitor key materials industries and sectors, to develop a framework for analyzing the comprehensive effects of proposed major federal policy actions, and to monitor the basic data collection, data analysis, and policy analysis activities of the line agencies and departments. They also recommended adding 10 senior

staff positions to the President's Council of Economic Advisers to build up sectoral and industry analysis capabilities in the materials area.

The Commission's report, "Government and the Nation's Resources," was released the first week of 1977. The timing could not have been worse. Not only had Senator Mansfield left office, but both of the senators who served on the Commission had been defeated, and one of the two House members had left office. The Administration was changing, and the mining industry was upset over one of the recommendations concerning the U.S. Bureau of Mines. Staff Director George Eads spent January 1977 working at the Council of Economic Advisers, seeking to get some of the Commission's ideas implemented. The only bright spot was a hearing held by the Senate Subcommittee on Science, Technology, and Space (of the Commerce Committee), which gave some visibility to the report's findings and recommendations.

While the National Commission on Supplies and Shortages was making its yearlong study and preparing its report, its Advisory Committee on National Growth Policy Processes had been at work along separate and sometimes conflicting lines. The Advisory Committee's 19 members all came from outside Government and included a former Cabinet member and a noted presidential historian. Industrialist Arnold A. Saltzman was named Advisory Committee Chairman. The staff director, James E. Thornton, had been the author of the Humphrey amendment that established the Committee, and while working on the Senate Agriculture and Forestry Committee, had helped Humphrey on his proposal for achieving balanced national growth and development.

The legislation authorizing the Advisory Committee provided a wide-ranging mandate ("to develop recommendations as to the establishment of a policymaking process and structure within the executive and legislative branches of the Federal Government as a means to integrate the study of supplies and shortages of resources and commodities into the total problem of balanced national growth and development"). The Advisory Committee, however, had a sparse budget that supported only a staff director and one assistant, and many of the Committee members paid their own expenses when attending monthly meetings. Members wrote their own papers and worked up proposals between meetings. The issue that received most attention was the attempt to determine how to improve the longrange policymaking processes of government in both the executive and legislative branches.

In its report to the President and Congress, the Advisory Committee urged that the nation become not a *planned* society, but a *planning* society. Adequate and open planning for the future would result in less governmental interference, and the necessary government intervention would be more considered, more timely, and less heavy-handed. The report's prime recommendation was for the institutionalization of the planning process in an independent executive branch agency to be created by Congress and called the National Growth and Development Commission. The new Commission would have the mandate "to examine emerging issues of middle- to long-range growth and development and to suggest feasible alternatives for the Congress, the President, and the public." The Commis-

sion would provide an early warning system that would identify and examine policy issue before they surfaced as crises. It would have no executive, legislative, or judicial powers. The Advisory Committee recommended that enabling legislation to establish the National Growth and Development Commission should require the President and Congress to respond in some fashion to the Commission's reports. The proposed Commission would conduct its affairs openly and hold public hearings. It would submit an annual report to Congress and the President, setting forth its proposed research agenda, the status of ongoing work, and a summary of the reaction from Congress, the President, and the public to previous reports. The new Commission would receive an initial budget authorization for eight years to ensure its continuity. To balance presidential and congressional influence, the chairman of the Commission would be appointed by the President, but the President would be required to consult with the congressional leadership before making Commission appointments. The Advisory Committee report also suggested that the new Commission consist of nine people, five full-time and four part-time (allowing for participation by those not able to accept full-time appointments). Terms of office would run for five years. No member could be removed except for cause, and all appointments would require Senate confirmation.

The Advisory Committee was not unanimous on this recommendation. One Committee member argued that it would give too much power to "the group of wise men," as the Committee members informally referred to the members of the proposed Commission.

Another institutional recommendation of the Advisory Committee was the creation of a Center for Statistical Policy and Analysis to coordinate statistical support for the work of the President and Congress. The Center would be an independent agency in the executive branch, but outside the Executive Office of the President.

Among recommendations of the Advisory Committee that dealt with Congress was one that would require each congressional committee report accompanying proposed legislation to include an outline of the bill's foreseeable indirect middle- to long-range effects, as well as a concise statement of the general goals and specific objectives of the bill.

Reflecting one of the major differences of approach between the parent National Commission on Supplies and Shortages and its Advisory Committee, the Commission in its report expressed doubts concerning creation of an independent new National Growth and Development Commission, as recommended by the Advisory Committee. In the formal letter to the President and to Congress submitting the Advisory Committee's report, Commission Chairman Rice stated that the Commission believed that the proposed new institution "fails the test of feasibility and that the aims sought would be better met by the proposals we have made in our own report for improving the analytical capabilities of existing agencies and departments." The impact of the two groups' reports was marred by this disagreement.

D. CONCLUSIONS

Some Observations

1. For the past 70 years the nation's leadership has perceived periodically a need for long-term analysis of problems relating to natural resources, population, or the environment. For the most part, these issues have been addressed on an ad hoc basis by appointing presidential commissions or other temporary groups to study the situation, make their reports, and then disband. As a result, decision-makers continue to deal primarily with immediate problems, while consideration of how to prepare for conditions that might exist 10, 20, or 30 years in the future is postponed for lack of adequate and systematic information on the options available and on the social, economic, and environmental impacts of alternate choices.

2. Future-oriented commissions or study groups have generally studied natural resources problems separately from problems related to population and the environment. There has been insufficient recognition of the interrelation of these three issues. Each succeeding year, as the problems become more complex and the interrelationships more involved, the need for a holistic approach to decision-making becomes more urgent.

3. Most analyses of future problems in population, natural resources, and the environment have been made only on a national basis. President Truman recognized the need for assessing global implications of natural resources when he instructed his Materials Policy Commission in 1951 to make its study of materials policy international in scope, at least to the extent of considering the needs and resources of friendly nations. But while the harmful effects of population growth, resource consumption, and pollution spread across borders and oceans, the international approach to long-range planning for solutions to these problems continues to be neglected.

4. When commissions or other bodies have been formed to consider long-term problems in population, natural resources, and the environment, their effectiveness has been hampered by lack of provisions for following up on their recommendations. In several cases the heads of commissions felt so strongly about the need for ongoing institutions that they set up private organizations on their own to follow up with their group's recommendations, which have led to some efforts of ongoing analysis.

5. One recommendation has been made by virtually every presidential commission on population, natural resources, or the environment: the establishment of a permanent body somewhere high in the executive branch for performing continuous futures research and analysis. Although ideas for location of such a permanent group have varied, proposals have generally indicated that a statutorily created institution with access to the President could explore potential goals, watch for trends, and look at alternate possibilities for accomplishing stated objectives.

Lessons From the Past

The recommendation of President Truman's Materials Policy Commission for an advisory body in the Executive Office of the

President to frame recommendations for policy up to 25 years ahead went unheeded. The National Goals Research Staff was terminated by President Nixon after completing only one of its scheduled annual reports on goals, and before it could complete its work of setting up in the private sector a National Center for Goals and Alternatives to work with the governmental efforts at decision-making for the future. The National Materials Policy Commission (appointed by President Nixon in 1971), recommended creation of a comprehensive Cabinet-level agency for looking at the future in terms of materials, energy, and the environment, but the recommendation produced no results. And the 1976 recommendation of the National Commission on Supplies and Shortages' Advisory Committee on National Growth Policy Processes, calling for a permanent National Growth and Development Commission, was submitted in the last few weeks of the outgoing Ford Administration, too late to be acted upon. The Advisory Committee had urged that a permanent institution for planning conduct its affairs openly, hold public hearings, and submit an annual report setting forth its proposed research agenda, the status of ongoing work, and a summary of reactions from Congress and the President to previous reports.

In the one case in which a President did establish-without congressional authorization-a mechanism for long-range planning and advice, the institution was often at odds with other agencies and with the Congress and was finally legislated out of existence by Congress. This was Franklin D. Roosevelt's National Resources Planning Board and its earlier entities. When the Board helped to coordinate activities of some Cabinet agencies and to get their ideas before the President, it had some success. But when it tried to establish its own field staff and do its own planning, it incurred hostility from regular line agencies. Roosevelt's Board also did most of its work in secret, which aroused further antagonism.

On the other hand, in the one case in which Congress enacted legislation (the National Environmental Policy Act of 1969) to establish a permanent Council on Environmental Quality to advise the President regularly on long-term national environmental policies, the results were indecisive and the Council has not yet been used to its statutory potential.

A permanent advisory group could provide early warning of problems so that public officials and private citizens would have time to prepare contingency plans. As demonstrated by the presidential commissions, research and analysis of long-term impacts can have a significant educational influence, even if no actions are taken immediately as a result of recommendations. Truman's Materials Policy Commission and the 1961-62 National Academy of Sciences Committee on Natural Resources brought large numbers of scientists and other experts together to work on future problems and thus formed a cadre of individuals who continued to enlighten others. The study groups also helped to coordinate research efforts among government, universities, and industry. An unmeasurable educational factor was present in the activity of the Commission on Population Growth and the American Future (1970-72) through Commission-sponsored seminars with experts, public hearings, a film, and brochures. The research work directed by the Commission

also resulted in extensive new knowledge and its dissemination through publication of its research papers. The same has been true of all the other commissions and groups dealing with future problems.

Involvement of the private sector in the activities of a permanent future-oriented high-level advisory group would serve both to educate citizens and build a constituency for carrying out recommendations. This was demonstrated by the 1958 Outdoor Recreation Resources Review Commission when it formed an advisory council that included 25 citizen leaders representing varied citizen organizations. The Commission held joint meetings and field trips with the advisory council, and Commission recommendations were submitted in draft form to the advisory council for consideration. A Citizens Committee that was formed after completion of the Commission report helped obtain support for implementing the recommendations. The seminars and public hearings held by the 1970 Commission on Population Growth and the American Future served an educational purpose. And the Commission's Citizens Committee, which promoted a film and an education program on the Commission's work, provided new avenues for dissemination of the findings. Public participation in the 1976 National Growth and Development report through seminars in San Francisco, Kansas City, and Washington, provided advisory assistance to the HUD team preparing the report. A draft of the report was circulated for review and comment to 35 public groups and Congress. These activities proved helpful to a report which previously had inputs only from a few people in the White House Domestic Council and the Department of Housing and Urban Development.

The Matter of Timing

A permanent institution would have much more freedom in choosing the moment to present new ideas, and thus avoid the timing and politics-related problems that have often hindered activities of temporary presidential commissions. The interest of a President or Congress or the public proved to be much greater at the time a study is started than when it is completed. The Materials Policy Commission was appointed by President Truman in January 1951, when military involvement in Korea had reintroduced fears of shortages that were still fresh in the minds of administrators and the public following World War II. But when the Commission's report went to the President in June 1952, the scarcity issue had lost its priority and public concern. When President Nixon sent a Message to Congress in 1969 asking for creation of a commission to study population growth, the subject was politically attractive inasmuch as people were concerned about rising birthrates. But by the time the Population Commission's report was submitted, statistics showed that the birthrate in the nation had already declined to a stability rate—two children per family—and the subject had less political importance. Another unfavorable timing factor was that the report was sent to the President at the start of his 1972 re-election campaign; some of the Commission's recommendations raised controversy, causing the President to repudiate the Commission's work. On the other hand, the release of the report of the Outdoor Recreation Resources Review Commission

came at a time when the popularity of outdoor recreation was booming, and Congress welcomed help in devising solutions to the problems connected with the growing recreation use of public lands, national parks, and national forests. Another problem of timing was the frequent long delays between the request for a commission and its creation, or between the time the law was passed and the President appointed the public members. Sometimes the period allowed for a study was too short, as with the preparation of "Toward a Social Report." That study also ran into a frequent timing problem: having been started by one President, the study is then submitted either at the end of his term or to his successor.

For all of these reasons, many observers have urged the establishment by law of a permanent group in the Executive Office of the President to institutionalize the coordination of long-term global and holistic considerations of population, resources, environment, and their related issues.

CHAPTER 15. HISTORY OF THE PROPOSAL FOR AN INSTITUTE FOR CONGRESS*

(By Richard S. Beth, Analyst in American National Government, Government Division)

The Institute for Congress was conceived as an independent organization that would perform expert, systematic, objective policy analysis with Congress as its only client.¹ The establishment of an organizational framework and Board of Trustees for the Institute was announced on December 7, 1975.² This action had been preceded by about three years of preliminary discussions by a working group centered on Alton Frye, who was then with the Council on Foreign Relations.³ Following the announcement, however, the Institute never reached the point of beginning operations, and dissolved on December 20, 1977.⁴ This report describes the Institute's concept and rationale, and the course of the attempt to realize that concept.

A. DESCRIPTION OF THE PROPOSED INSTITUTE

Concept

In addition to Frye, the initial working group included Cyrus Vance, James R. Killian, Gordon J.F. MacDonald, and Harry C. McPherson, Jr. All four had had experience in the Executive branch: Vance as Deputy Secretary of Defense and Secretary of the Army, Killian as President Eisenhower's Science Advisor, MacDonald on the President's Council on Environmental Quality, and McPherson in President Johnson's White House. Frye had worked at the RAND Corporation and MacDonald at the Institute for Defense Analyses. Frye had also worked for Senator Edward W. Brooke, Vance for the Senate Armed Services Committee, and McPherson for the Senate Democratic leadership.⁵

* Bibliographic references in footnotes are given in abbreviated form. For full references, see the bibliography that begins on p. 211 of this report. The author wishes to thank Alton Frye, Martha Griffiths, James Killian, Gordon J.F. MacDonald, Harry C. McPherson, Jr., and Cyrus Vance for generously taking the time to answer his questions, and in Alton Frye's case also for sending information about the Institute. He also thanks Larry Nunley, Mildred Boyle, and Daphne Bigger for their work in the production of this report.

¹ Killian, telephone interview. Institute for Congress, *The Institute for Congress*, p. 3. Frye, *Congressional Politics and Policy Analysis*, p. 275. *Aiding the Congress*, p. 56. Griffiths and Ruckelshaus, *Why Congress Needs Even More Help*, p. H-1.

² Anderson, John B. Institute for Congress, *Congressional Record*, v. 121, Dec. 19, 1979, p. 42340. Subsequent citations to material in the *Congressional Record* carry the notation "C.R."

³ Institute for Congress, *The Institute for Congress*, Appendix II, p. 2.

⁴ Killian, telephone interview.

⁵ MacDonald, Vance, telephone interviews. Institute for Congress, *The Institute for Congress*, Appendix II, p. 2-4. *Think Tank for Congress Advances*, p. 1178. Lyons, *Institute Set Up to Provide Specialists to Aid Congress: Party Leaders Back Privately Funded Panel to Allow Academics to Offer Objective Analyses and Advice* (hereafter cited as *Institute Set Up*), C.R., p. 2543-2544. Lyons, *Congress Pushing an Idea—a Think Tank to Serve It* (hereafter cited as *Congress Pushing an Idea*), C.R., p. 2542. Walsh, *A Think Tank for Congress?*, p. 37.

Their experience in these positions led the individuals who became the working group to the belief that Congress lacked adequate access to independent, timely, and thorough analysis of broad, complex, and technical policy problems, especially in comparison to the Executive branch.⁶ Killian felt this lack especially on scientific questions;⁷ Vance recalls a frequent sense that "Congressmen did not have the information to ask the right questions, so that their explorations . . . were not as profitable as they might have been."⁸ These views were shared by others; a 1974 report of the Committee for Economic Development concluded that Congress needed improved information about foreign and defense policy issues,⁹ and newspaper commentary on the Institute frequently expressed the view that improved information and analysis would raise the quality of legislative debate and decision making.¹⁰

Those sharing these views accordingly perceived Congress as lacking its own sources of sophisticated technical information on policy questions. Consequently, according to these views, its judgment on such questions frequently became dependent on, or was overwhelmed by, the extensive policy analysis available to the Executive branch.¹¹ To maintain itself as an equal partner in policy making, Congress would have to develop its own independent sources for such information. As Frye put it in 1975, "If Congress is going to make its constitutional authority effective, it must make its intellectual authority effective."¹²

Frye and his associates perceived the growth of "not-for-profit organizations that perform analysis primarily for the executive branch,"¹³ such as RAND and the Institute for Defense Analyses, as one factor that had enhanced the policy analysis available to that branch. They reasoned that congressional capacities might be similarly enhanced if an organization existed with a similar relationship to the legislative branch.¹⁴ Frye accordingly conceived the Institute for Congress as something like a Capitol Hill counterpart to RAND: a private, nonpartisan research organization, with the sole mission of providing the Congress with independent analysis and evaluation of complex and technical policy questions.¹⁵

⁶ Killian, MacDonald, McPherson, Vance, telephone interviews. Aiding the Congress, p. 56. Institute for Congress, *The Institute for Congress*, p. 3. Walsh, *A Think Tank for Congress?* p. 37. Anderson, *Institute for Congress*, C.R., p. 42340. Institute for Congress, *Institute for Congress Officially Organized*, C.R., p. 2539-2540. TerHorst, *Institute for Congress: Time is Here*, p. 8-E. Brademas, *The Institute for Congress Officially Organized*, C.R., p. 40186-40188. Foley, *Institute for Congress*, C.R., p. 40386. Los Angeles Times, *Congress is Thinking*, p. 4.

⁷ Killian, telephone interview.

⁸ Vance, telephone interview.

⁹ Walsh, *Strategic Weapons Policy*, p. 37-38.

¹⁰ TerHorst, *Institute for Congress: Time is Here*, p. 8-E. Los Angeles Times, *Congress is Thinking*, p. 4. Houston Chronicle, *Congress Needs Overview*, p. 6.

¹¹ MacDonald, Vance, telephone interviews. Walsh, *Strategic Weapons Policy*, p. 37-38. Los Angeles Times, *Congress is Thinking*, p. 4. Institute for Congress, *the Institute for Congress*, Appendix I, p. 3.

¹² Lyons, *Institute Set Up*, C.R., p. 2543. Lyons, *Congress Pushing an Idea*, C.R., p. 2542. Frye, *Congressional Politics and Policy Analysis*, p. 266. TerHorst, *Institute for Congress: Time is Here*, p. 8-E.

¹³ McPherson, telephone interview. Frye, *Congressional Politics and Policy Analysis*, p. 275. Walsh, *Strategic Weapons Policy*, p. 38. Frye, *Congressional Politics and Policy Analysis*, p. 278. Aiding the Congress, p. 56.

¹⁴ McPherson, Killian, telephone interviews. Ruckelshaus, *Testimony*, p. 121. Brademas, *The Institute for Congress Officially Organized*, C.R., p. 40186. Lyons, *Congress Pushing an Idea*, C.R., p. 2542. Los Angeles Times, *Congress is Thinking*, p. 4. See also sources cited in previous note.

As initially proposed in 1975, the Institute for Congress would have been governed by a Board of Trustees made up of prominent public figures, and its work guided by a Director who would be a respected member of the scholarly community.¹⁶ In full operation, it would have undertaken research in about five major areas at any one time; the Institute's organizers proposed that it initially concentrate on national security, the environment, public health and welfare, and the economic and social implications of technological developments.¹⁷ These projects would have been carried out by a staff averaging about eighty, drawn for varying periods of tenure from higher education, private research, the Executive branch, and Congressional staff.¹⁸

For a five-year experimental period, the Institute would have been funded by grants from private foundations; subsequently, if its work were to have been found worthwhile, it would have been funded by research contracts with the Congress.¹⁹ The organizers projected a budget of \$22.5 million for the experimental period, including \$6 million in the first two years and \$11.5 million in the first three. The staff was to build from 30 in the first year to 60 in the second before reaching its planned level.²⁰ Such arrangements, it was felt, would give Congress a chance to see whether it found such work useful without committing itself at the outset to a permanent structure.²¹

Rationale

The organizers were prepared to argue that the Institute would contribute an element to Congressional deliberations not offered by its existing research support staffs, committee structure, or deliberative processes.

Existing Congressional *research support agencies* were viewed as "not set up to undertake the mission-oriented, think-tank type of approach" that the Institute was intended to offer.²² Institute advocates regarded the Congressional Research Service at that time as oriented primarily toward rapid reference work and the drafting of speeches and reports; they considered that its need to respond to spot demands from "535 bosses"²³ would always impede its performance of systematic policy analysis.²⁴ The General Accounting

¹⁶ Lyons, *Congress Pushing an Idea*, C.R., p. 2542. Lyons, *Institute Set Up*, C.R., p. 2543-2544.

¹⁷ *Institute for Congress, Institute for Congress Officially Organized*, C.R., p. 2539-2540. Anderson, *Institute for Congress*, C.R., p. 42340. Frye, *Congressional Politics and Policy Analysis*, p. 277.

¹⁸ *Institute for Congress, The Institute for Congress*, p. 9-11, 14-15. *The Institute for Congress—a Five-Year Experiment*, p. 1. *Think Tank for Congress Advances*, p. 1178. *Congressional Research Service: The Institute for Congress*, p. 1-2. Frye, *Congressional Politics and Policy Analysis*, p. 277-278.

¹⁹ Lyons, *Congress Pushing an Idea*, C.R., p. 2542. *The Institute for Congress—a Five-Year Experiment*, p. 1. *Think Tank for Congress Advances*, p. 1178. *Institute for Congress, The Institute for Congress*, p. 14-15. Frye, *Congressional Politics and Policy Analysis*, p. 275.

²⁰ Frye, *Congressional Politics and Policy Analysis*, p. 275. Lyons, *Institute Set Up*, C.R., p. 2542. Lyons, *Congress Pushing an Idea*, C.R., p. 2543. See also sources cited in note 18.

²¹ Frye, *Congressional Politics and Policy Analysis*, p. 275. Griffiths and Ruckelshaus, *Why Congress Needs Even More Help*, p. H-4. TerHorst, *Institute for Congress: Time is Here*, p. 8-E.

²² Lyons, *Congress Pushing an Idea*, C.R., p. 2542. See also Lyons, *Institute Set Up*, C.R., p. 2543. Ruckelshaus, *Testimony*, p. 121.

²³ Griffiths and Ruckelshaus, *Why Congress Needs Even More Help*, p. H-4. See also *Institute for Congress, The Institute for Congress*, Appendix I, j. 3.

²⁴ Frye, MacDonald, telephone interviews. Frye, *Congressional Politics and Policy Analysis*, p. 269. Griffiths and Ruckelshaus, *Why Congress Needs Even More Help*, p. H-4. *Houston Chronicle*, *Congress Needs Overview*, p. 6. *Institute for Congress, The Institute for Congress*, Appendix I, p. 13.

Office was seen as providing chiefly auditing and other fiscally oriented services, rather than analysis of policy questions; in addition, if it undertook the latter, it might subsequently be required to render unbiased audits of the same programs it had originally proposed.²⁵ The new Congressional Budget Office was held to provide a good economic analysis capability, but to possess neither a charge to develop policy recommendations nor a capacity for scientific and technical analysis of the kind the Institute was to offer.²⁶ The Office of Technology Assessment, also new at the time, was expected to work mainly by contracting out its projects, and hence not to play the same role as would the Institute, which would operate by accepting such contracts.²⁷

The reason most prominently advanced for thinking *professional committee staffs* less well suited than the Institute for the latter's intended tasks was that committee jurisdictions tended to fragment broad policy areas into sometimes overlapping segments. This fragmentation was seen as encouraging the development of piecemeal approaches to problems, while offering no means for reintegration of the fragments. The Institute, supporters suggested, would not duplicate committee work, but would make a distinctive contribution by concentrating specifically on such areas of fragmented and overlapping jurisdictions. Its more comprehensive research would not supplant committee approaches, but support them by providing an overall context to which committees could orient their particular activity, and in terms of which jurisdictional conflicts could be adjusted.²⁸ Frye and others argued that if Congress had a better grasp of relations among aspects of an issue, it could design policy to take better advantage of favorable, and avoid unfavorable, linkages, citing as examples health, land use, international affairs, and the relation of air standards to auto imports.²⁹

The jurisdictional fragmentation of committees' policy making was described as both fostering and fostered by the character of the interests to which the committees responded. Committees were viewed as attentive to local concerns and to the political interests of committee leaders.³⁰ Their capacity for systematic analysis was said to be hindered by their need to respond to immediate political demands; the same was held true of Members' personal staffs.³¹ Advocates claimed that committees' political, rather than intellectual, atmosphere also rendered them incapable of attracting the

McDonald, telephone interview; Frye, *Congressional Politics and Policy Analysis*, p. 269; Griffiths and Ruckelshaus, *Why Congress Needs Even More Help*, p. H-1.

²⁵ Institute for Congress, *The Institute for Congress*, p. 3-4.

McDonald, telephone interview; Frye, *Congressional Politics and Policy Analysis*, p. 268; 270-271.

²⁶ Brack, *The Institute for Congress*, C.R., p. 2539; TerHorst, *Institute for Congress: Time is Here*, p. 8-E; Frye, *Congressional Politics and Policy Analysis*, p. 276-279; *Congressional Research Service*, *The Institute for Congress*, p. 2; *Institute for Congress*, *The Institute for Congress*, p. 5-8; William Ruckelshaus, quoted in Lyons, *Institute Set Up*, C.R., p. 2544; *Los Angeles Times*, *Congress is Thinking*, p. 4; *Houston Chronicle*, *Congress Needs Overview*, p. 6; Percy, *Institute for Congress*, C.R., p. 11793.

²⁷ Frye, *Congressional Politics and Policy Analysis*, p. 273-274, 276; *Institute for Congress*, *The Institute for Congress*, p. 5-8.

²⁸ TerHorst, *Institute for Congress: Time is Here*, p. 8-E; *Los Angeles Times*, *Congress is Thinking*, p. 4; *Institute for Congress*, *The Institute for Congress*, p. 1-3.

²⁹ Griffiths and Ruckelshaus, *Why Congress Needs Even More Help*, p. H-1, H-4; *Institute for Congress*, *The Institute for Congress*, Appendix I, p. 1-3; Frye, *Congressional Politics and Policy Analysis*, p. 268.

highest quality research personnel.³² In addition, the small size of most committee staffs required them to function as generalists rather than specialists,³³ making them less than an equal match for the Executive. Committee staffs were also viewed as lacking the technical and analytical skills a research institute could offer.³⁴ Finally, committees, like the support agencies, were viewed as ill equipped to obtain research by contract,³⁵ the Office of Technology Assessment notwithstanding.

Similarly, proponents of the Institute recognized that the Congressional *policy process* as a whole possessed primarily a political, rather than an analytical, character, in that it was oriented toward the concrete interests of actual social groups, and not solely toward developing technically adequate responses to policy problems.³⁶ Some observers suggested that at least in certain policy areas, the organs of Congress were generally more inclined to respond to the institutional interests with which they maintained established relations than to address policy questions in a detached or abstract way.³⁷ Frye affirmed that political deliberation was the appropriate model for nontechnical decisions,³⁸ and gave extended consideration to the proper relation of scientific analysis to that political deliberation. He pointed out that "although science aspires to a coherent and shared vision of the truth, the essence of the legislative process is the interaction of differing perceptions of the desirable,"³⁹ and admitted that

one of the hard facts for scientists and technologists to comprehend is that truth is only one of the values—and not always the supreme one—to be served by a rational politics.⁴⁰

Nevertheless, Frye held that scientific analysis had a place within a political process of this kind, and that the question was how to bridge the gap between such analysis and the political expertise of Congress.⁴¹ Part of the task of Institute proponents was, accordingly, to persuade participants in congressional policy making of the value to their work of an organization that would "build up a credible, objective viewpoint on the nation's problems."⁴²

Analysis introduced by advocates of particular interests, Frye suggested, was often shaped to serve those interests, or was suspected of being so, either of which reduced the confidence with which legislators could use it.⁴³ Congressional mistrust on similar grounds also arose with reports from the existing private research organizations, because these were often thought to have political

³² Institute for Congress, *The Institute for Congress*, p. 34. *Houston Chronicle*, *Congress Needs Overview*, p. 6.

³³ Institute for Congress, *The Institute for Congress*, Appendix I, p. 1-3.

³⁴ Griffiths and Ruckelshaus, *Why Congress Needs Even More Help*, p. H-4.

³⁵ Frye, *Congressional Politics and Policy Analysis*, p. 270-271.

³⁶ Institute for Congress, *The Institute for Congress*, p. 2.

³⁷ Walsh, *Strategic Weapons Policy*, p. 38.

³⁸ *Ibid.*, p. 267-268. See Institute for Congress, *The Institute for Congress*, p. 2.

³⁹ Frye, *Congressional Politics and Policy Analysis*, p. 271.

⁴⁰ *Ibid.*, p. 281.

⁴¹ *Ibid.*, p. 265-266.

⁴² Martha Griffiths, quoted in Lyons, *Congress Pushing an Idea*, C.R., p. 2542. See also Lyons, *Institute Set Up*, C.R., p. 2543.

⁴³ Frye, *Congressional Politics and Policy Analysis*, p. 267, 281.

orientations of their own.⁴⁴ Legislators sometimes relied for technical advice on their own individual expertise and that of personal associates; however, while these could help prevent premature acceptance of others' analytical claims, they could seldom offer systematic analysis of their own.⁴⁵ A multiplicity of information channels was useful in itself, because conflict among technical views could alert legislators that value questions, requiring political decisions, were at stake.⁴⁶

The Institute could be useful first, Frye proposed, in contributing to the diversity of congressional information sources, and thus reducing congressional dependence on a narrow range of possibly biased information.⁴⁷ Its work could also alert Congress to newly emerging problems in time for Congress to contribute fundamentally to the shaping of policy responses, rather than having to accept an approach the Executive had already become locked into.⁴⁸ Among the specific questions advanced as possible topics for Institute research were urban transportation, energy conservation, the nuclear Navy, welfare policy, nuclear proliferation, nuclear "mini-weapons," health policy, intergovernmental financing, defense conversion, tradeoffs between food and energy production, and tradeoffs between taxation and economic growth.⁴⁹

Relation to Congress

The question of how scientific analysis should be related to the legislative environment needed to be addressed not only in terms of the two kinds of deliberative process they represented, but also at the level of the relations between congressional and Institute personnel. In particular, it required consideration of the relations of Institute analysts to the rest of the research community, to Members, and to existing staffs.

Frye found that many in the research community had always tended to regard Congress with incomprehension and condescension. He felt that they had been disinclined to work on committee and other congressional staffs, for fear their professional independence would be constrained by political requirements, and their work disrupted by unmanageable levels of immediate political demands.⁵⁰ As Institute advocates saw it, existing staffs possessed neither independence nor the highest forms of professional expertise; as a consequence, they lacked the prestige, "stature and ability" to "earn the deference of the [Members]." Congress was said not to treat their work with the respect that high-level professional researchers would require as part of their working conditions.⁵¹ The organizers concluded that the way in which independent research organizations functioned would help avoid these problems.

⁴⁴ MacDonell, telephone interview; Institute for Congress, *The Institute for Congress*, Appendix I, p. 1. See *Adding the Congress*, p. 36.

⁴⁵ Frye, *Congressional Politics and Policy Analysis*, p. 267-268.

⁴⁶ *Ibid.*

⁴⁷ *Ibid.*, p. 263, 274, 280.

⁴⁸ *Ibid.*, p. 263, 271, 278. Institute for Congress, *The Institute for Congress*, p. 4. Griffiths and Ruckelshaus, *Why Congress Needs Even More Help*, p. H-4.

⁴⁹ Institute for Congress, *The Institute for Congress*, p. 8.

⁵⁰ Frye, *Congressional Politics and Policy Analysis*, p. 266-267, 270. Griffiths and Ruckelshaus, *Why Congress Needs Even More Help*, p. H-1, H-4.

⁵¹ Institute for Congress, *The Institute for Congress*, Appendix I, p. 14.

First, policy analysis, as practiced at such institutions, is understood as necessarily including the development of policy recommendations. The operation of an Institute for Congress would accordingly promote professional autonomy by allowing researchers an opportunity to present unfettered advice to legislative policymakers.⁵² This opportunity would be enhanced by the immediate presence of Institute analysts in the congressional environment, for, as Frye put it,

In the fast-paced world of legislative politics, where personal trust, direct access, and oral communication are indispensable ingredients of effective advice, there is no substitute for a live body on the scene at the moment of decision.⁵³

On the other hand, to reassure the policymakers themselves about the consequences of such autonomy, Frye pointed out that Institute analyses "would not resolve policy questions in controversial realms, but they could build a common ground of information to elevate the plane on which political decisions are made."⁵⁴ In addition, the Institute would avoid one-sided treatments by organizing research teams, whose members would treat each subject from a multiplicity of perspectives, identify various policy options, and present the clearest and strongest possible arguments for each.⁵⁵

Frye perceived a tendency for Congress to move away from its previous skepticism about policy analysis to a greater readiness to understand its value in decision making.⁵⁶ The organizers also believed that Congress would be likely to trust and accept the work of the Institute, more than other policy analysis, because the Institute would be entirely independent from the Executive branch and interest groups.⁵⁷ The structure of a private research institute, and the extent to which it could attract researchers of renown, should also enhance congressional acceptance of the Institute's work, because both carried with them the prestige that existing staffs were felt not to possess, and that Congress would readily recognize and respect.⁵⁸ The hope was that all of these factors would, by improving congressional responses to the Institute's analyses, make working there a more attractive possibility, and thereby help draw analysts of the desired quality, who would otherwise hesitate to work for Congress.

On the other hand, organizers also attended to the problem of adapting policy analysis to *congressional* needs. William Ruckelshaus, who was to become Vice Chair of the Institute's Board,⁵⁹ argued that the Institute's job would be to

put the analysis in a form that would be useful to Congress and not just to dump it on an individual Congressman's desk in a very lengthy form.⁶⁰

McPherson, telephone interview; Lyons, *Congress Pushing an Idea*, C.R., p. 2542; Lyons, *Institute Set Up*, C.R., p. 2541. See also sources cited in note 55.

⁵² Frye, *Congressional Politics and Policy Analysis*, p. 281.

⁵³ *Ibid.*, p. 278.

⁵⁴ Griffiths and Ruckelshaus, *Why Congress Needs Even More Help*, p. H-1; Institute for Congress, *The Institute for Congress*, p. 45; Anderson, *Institute for Congress*, C.R., p. 42340.

⁵⁵ Frye, *Congressional Politics and Policy Analysis*, p. 266-267. Cf. Percy, *Institute for Congress*, C.R., p. 11793, citing the Commission on the Operation of the Senate.

⁵⁶ Frye, *Congressional Politics and Policy Analysis*, p. 281; Institute for Congress, *The Institute for Congress*, p. 2; Ruckelshaus, *Testimony*, p. 121122; Griffiths and Ruckelshaus, *Why Congress Needs Even More Help*, p. H-1; Lyons, *Congress Pushing An Idea*, C.R., p. 2542; Lyons, *Institute Set Up*, C.R., p. 2543.

⁵⁷ Frye, *Congressional Politics and Policy Analysis*, p. 275-276.

⁵⁸ Institute for Congress, *The Institute for Congress*, Appendix II, p. 1.

⁵⁹ Ruckelshaus, *Testimony*, p. 122.

Organizers proposed to provide such analysis not only in the form of written reports, but also by video and audio cassettes, personal conferences, and committee testimony.⁶¹ Ruckelshaus also argued that work at the Institute would compel scholars to address the practical question of how to achieve desirable ends, rather than contemplating only the ends themselves, and would foster participation by the decision makers in the analysis itself as well as only their use of its results.⁶² Similarly, Frye argued that direct access to Institute studies would allow individual Members to be independently active policy catalysts.⁶³

Institute proponents also felt that good relations with Congress would be facilitated by the practice, frequent at such organizations, of having scholars work there only on a specific project, and subsequently return to their original institutions.⁶⁴ This practice would further ensure the independence of the analysis undertaken, since analysts would not develop a vested interest in protecting their jobs and their conclusions.⁶⁵ Such independence would further help to attract high quality scholars to serve periods at the Institute. The practice would also allow Congress to develop a systematic network of contacts throughout the research community, rather than the sporadic one that committee testimony alone tended to create.⁶⁶ It would thus provide a conduit of communication from Congress to centers of the intellectual community throughout the nation, filtering out and transmitting their best output.⁶⁷ Moreover, once Congress had had experience with contracting for major research, it might become more willing to make use of other research institutes for the same purpose as well.⁶⁸

The organizers also expected that close working relations could develop between Institute and existing *congressional staffs*. Frye felt that people in the existing research support organizations, familiar with how much more could be done than existing organizations were set up to do, would welcome the Institute's establishment.⁶⁹ He also thought much of the Institute's analysis would be channeled to Congress through the committee structure, and by contracts with existing agencies such as the Congressional Budget Office and Office of Technology Assessment.⁷⁰ This procedure might in itself aid the integrative function of Institute research, for if several committees jointly requested a study, each would probably study it the more closely knowing that the others also had access to it. This likelihood would, in turn, enhance the probability that Institute advice would be heeded, and thereby analyst willingness to serve with the Institute.⁷¹

⁶¹ Institute for Congress, *The Institute for Congress*, p. 12.

⁶² Ruckelshaus, *Testimony*, p. 122-123.

⁶³ Frye, *Congressional Politics and Policy Analysis*, p. 271-273.

⁶⁴ Griffiths and Ruckelshaus, *Why Congress Needs Even More Help*, p. H-4. Lyons, *Congress Pushing An Idea*, C.R., p. 2542. Lyons, *Institute Set Up*, C.R., p. 2543-2544.

⁶⁵ McPherson, telephone interview. Martha Griffiths, cited in *Los Angeles Times*, *Congress Is Thinking*, p. 4.

⁶⁶ Frye, *Congressional Politics and Policy Analysis*, p. 277-278.

⁶⁷ Griffiths and Ruckelshaus, *Why Congress Needs Even More Help*, p. H-4. Institute for Congress, *The Institute for Congress*, p. 9-11. Frye, *Congressional Politics and Policy Analysis*, p. 277. Percy, *Institute for Congress*, C.R., p. H793.

⁶⁸ Institute for Congress, *The Institute for Congress*, Appendix I, p. 4-5.

⁶⁹ Frye, *Congressional Politics and Policy Analysis*, p. 270.

⁷⁰ *Ibid.*, p. 271-272. Griffiths and Ruckelshaus, *Why Congress Needs Even More Help*, p. H-4.

⁷¹ Frye, *Congressional Politics and Policy Analysis*, p. 279.

In addition, it was contemplated that members of existing congressional staffs would themselves be able to move to the Institute to work on particular projects; this practice would enhance both the career mobility of congressional staff and the Institute's access to congressional processes.⁷² In the long run, it might also foster an increase in the proportion of "professionals" willing to serve directly on congressional staffs, and in Members' eagerness to have them.⁷³

Finally, Institute advocates contended that an independent research organization, bringing to Congress only those scholars needed for a particular project, and only for the time needed for the project, would provide a useful alternative to existing forms of congressional staff organization. The approximately eighty researchers typically present would be a small group by congressional standards.⁷⁴ The cost of the Institute, averaging less than \$5 million annually over the experimental period, was contrasted with the \$850 million annual budget for existing congressional support agencies.⁷⁵ The Institute was accordingly presented as a way of offering Congress access to the work of first rate analysts without creating a large new permanent bureaucracy on Capitol Hill.⁷⁶

Many of the considerations surveyed in this section were expressed in an article by Frye in the journal, *Policy Analysis*, and may perhaps have been shaped with an audience of research professionals in mind. Nevertheless, among the main concerns of Frye and his associates were those of ensuring respect for the Institute's researches, and appropriate reliance on its findings. To attract first-rate analysts to the Institute, they believed, it would be necessary to define a research role sufficiently distant from Members to maintain independence, yet close enough that legislators would give what the organizers regarded as proper weight to its counsel.⁷⁷

The Congressional Advisory Council

The key structural means for achieving this balance between the Institute's independence and its usefulness was to be the Congressional Advisory Council, a device developed primarily by Frye.⁷⁸ The Council was to include the chairs and ranking minority members of the important standing committees in both Houses. Its function was to have been the evaluation of proposals for research developed, by Institute staff and by the Council itself, through consultation with Members and committees of Congress. Through negotiations with the Institute, the Council was annually to develop from these proposals a list of about five projects. This proposed research agenda for the year would then be screened through the Institute's

⁷² Ibid., p. 277-278. Institute for Congress, *The Institute for Congress*, p. 9-11; Appendix I, p. 3-4.

⁷³ Frye, *Congressional Politics and Policy Analysis*, p. 280-281.

⁷⁴ Institute for Congress, *The Institute for Congress*, p. 14-15.

⁷⁵ Ibid.

⁷⁶ Ibid., Appendix I, p. 4-5. Griffiths and Ruckelshaus, *Why Congress Needs Even More Help*, p. H-4. Lyons, *Congress Pushing an Idea*, C.R., p. 2542. Lyons, *Institute Set Up*, C.R., p. 2543. *Aiding the Congress*, p. 56.

⁷⁷ Frye, *Congressional Politics and Policy Analysis*, p. 270, 279-280. Institute for Congress, *The Institute for Congress*, p. 3; Appendix I, p. 3-4.

⁷⁸ McPherson, telephone interview. Frye, *Congressional Politics and Policy Analysis*, p. 280. Institute for Congress, *The Institute for Congress*, p. 8.

Board of Trustees, who would contact relevant experts to develop research and legislative recommendations on each subject.⁷⁹

The original Board also felt that

To create an environment which fosters imaginative effort and which enables the Institute to compete for the most talented people, a reasonable fraction of the Institute's work might well be self-directed.⁸⁰

They therefore proposed that the director and staff be allowed to select one project annually for the Institute without the requirement of approval by the Advisory Council.⁸¹

The main purpose of the Advisory Council was to provide a means to establish priorities for possible research;⁸² it can be supposed that its design also reflected the desire to maintain the highest degree of autonomy for the Institute compatible with its mandate to serve the Congress. In addition, it was avowedly designed to protect the Institute from becoming overloaded with uncoordinated requests for spot research; the Institute would normally decline requests for quick responses by asking the requestor to raise the matter with the Advisory Council.⁸³

Finally, however, the operation of the Council was also intended to reassure Congress about how the Institute would function; the Board declared that the Institute would be of little use if it was unable to develop an agenda of work that the Congress actually desired to see done.⁸⁴ Congressional committees were to be able to play an active role in shaping the Institute's research.⁸⁵ It was also supposed that, by means of the Advisory Council, the Institute would be able to avoid oversaturating Congress with sophisticated ideas and expertise, and would instead work only on "assignments requested by the . . . leadership and the chairmen of the top committees."⁸⁶

B. COURSE OF THE ATTEMPT TO ESTABLISH THE INSTITUTE

The Organizing Committee

Alton Frye apparently began discussing the idea of an independent research organization to serve the Congress with associates at least by 1972,⁸⁷ having gone to the Council on Foreign Relations from Senator Brooke's staff the previous year. Cyrus Vance and Harry McPherson became involved in these conversations early, and were among the most active in conducting preliminary soundings about the idea on Capitol Hill.⁸⁸ Gordon MacDonald, who was

⁷⁹ MacDonald, McPherson, telephone interviews. Frye, *Congressional Politics and Policy Analysis*, p. 278-279. Institute for Congress, *The Institute for Congress—a Five-Year Experiment*, p. 1. Lyons, *Congress Pushing an Idea*, C.R., p. 2542. Lyons, *Institute Set Up*, C.R., p. 2544.

⁸⁰ Institute for Congress, *The Institute for Congress*, p. 10.

⁸¹ MacDonald, telephone interview.

⁸² McPherson, telephone interview.

⁸³ Ibid. Frye, *Congressional Politics and Policy Analysis*, p. 279.

⁸⁴ McPherson, telephone interview. Institute for Congress, *The Institute for Congress*, p. 8.

⁸⁵ Institute for Congress, *Institute for Congress Officially Organized*, C.R., p. 2539-2540. Brademas, *The Institute for Congress Officially Organized*, C.R., p. 40817. Anderson, *Institute for Congress*, C.R., p. 42340.

⁸⁶ TerHorst, *Institute for Congress' Time is Here*, p. 8-E.

⁸⁷ MacDonald, telephone interview. Lyons, *Institute Set Up*, C.R., p. 2543. Lyons, *Congress Pushing an Idea*, C.R., p. 2542. Think Tank for Congress *Advances*, p. 1178. Institute for Congress, *Institute for Congress Officially Organized*, C.R., p. 2539-2540. Brademas, *The Institute for Congress*, C.R., p. 40386.

⁸⁸ Killian, McPherson, telephone interviews.

involved with Frye in the work of the Council on Foreign Relations, also became associated with the group early.⁸⁹ James Killian was brought into the discussions by Vance and MacDonald, as well as by Frye; Killian had had contact with Frye while the latter was with Senator Brooke.⁹⁰ All those involved, however, agree that Frye was the source of the initial concept and the chief initiator in its promotion.⁹¹

Previously, when MacDonald had been on the President's Council on Environmental Quality, the President had endorsed its proposal for an Institute for Environmental Policy Analysis, which, like the Institute for Congress, would have been funded largely by foundations rather than by government, and would have undertaken policy analysis rather than only technical analysis of policy proposals. Little came of this proposal, partly, in MacDonald's view, because of the difficult question of the manner in which that Institute's director would have been accountable to the White House, and also of the relative funding to be provided by the National Science Foundation and the Ford Foundation. However, MacDonald and Frye had maintained contact about this proposal at the time.⁹²

The initial task of the organizing committee was to discover how much interest existed, both in the Congress and among those involved in public affairs, in an Institute for Congress, and to consolidate as broad as possible a group of supporters.⁹³ The questions raised with Members of Congress included whether Congress would make use of such an Institute if it were to be established and funded, and how it should function.⁹⁴ Over the three year period of its work, members of the organizing committee estimate that they, and particularly Frye, talked with at least twenty Senators and more than a hundred Representatives, including the chairs and ranking minority members of most major committees and most, though not all, of the leadership of both chambers.⁹⁵

The organizers considered the initial congressional response generally favorable, ranging, according to those involved, from passive support to active enthusiasm.⁹⁶ Among Members cited by the organizers as particularly interested were Senators Mike Mansfield and Hugh Scott, then respectively Majority and Minority Leaders, Senators Russell Long, Hubert Humphrey, and William Brock, and Representatives John Brademas, John Anderson, Barber Conable, John Culver (later Senator), Thomas Foley, and William Steiger.⁹⁷ Then Majority Leader Thomas P. O'Neill, Jr., subsequently stated that he had "followed the plans for the Institute from their incep-

⁸⁹ MacDonald, telephone interview.

⁹⁰ Killian, telephone interview.

⁹¹ MacDonald, McPherson, telephone interviews. Lyons, *Congress Pushing an Idea*, C.R., p. 2542. Lyons, *Institute Set up*, C.R., p. 2543. *Think Tank for Congress Advances*, p. 1178.

⁹² MacDonald, telephone interview.

⁹³ Killian, MacDonald, Vance, telephone interviews.

⁹⁴ MacDonald, Vance, telephone interviews.

⁹⁵ MacDonald, McPherson, telephone interviews. Lyons, *Institute Set Up*, C.R., p. 2544. Griffiths and Ruckelshaus, *Why Congress Needs Even More Help*, p. H-4. *Aiding the Congress*, p. 56. Walsh, *A Think Tank for Congress?* p. 37. *Institute for Congress, Institute for Congress Officially Organized*, C.R., p. 2539-2540. Foley, *Institute for Congress*, C.R., p. 40386. Brademas, *The Institute for Congress Officially Organized*, C.R., p. 40186.

⁹⁶ Griffiths, Killian, MacDonald, McPherson, Vance, telephone interviews. *Aiding the Congress*, p. 56. Walsh, *A Think Tank for Congress?* p. 37. *Institute for Congress, Institute for Congress Officially Organized*, C.R., p. 2539-2540.

⁹⁷ Frye, Killian, MacDonald, McPherson, telephone interviews.

tion."⁹⁸ The Senate leadership played a prominent role in asking organizers for suggestions for meeting potential objections about the Institute's financing and agenda, and for protecting committee jurisdictions against preemption by Institute analysis.⁹⁹ It was their suggestion that the Majority and Minority Leaders of the House and Senate sit, *ex officio*, on the Institute's Board of Trustees.¹⁰⁰

The first public reference to the plans for the Institute appears to have been contained in a statement by Frye, on policy analysis for the Congress, to the Joint Committee on Congressional Operations in June 1974.¹⁰¹ Mention of the project then appeared in *Science* in October of that year, and subsequently in other publications.¹⁰² By the end of 1975 the organizing group felt confident enough of broad congressional support to incorporate, announce the establishment of the organization, apply for and receive tax-exempt status, and form a Board of Trustees.¹⁰³

The Board of Trustees

The Board consisted of fifteen members; it included all members of the initial organizing committee except Killian, who became Honorary Chairman.¹⁰⁴ None of the Trustees was at that time occupying a governmental position, except Secretary of Transportation William T. Coleman, Jr., who was designated "on leave for government service."¹⁰⁵ Seven others had previous executive branch experience, and three had served in Congress.¹⁰⁶ Another former Member of Congress, who had been frequently consulted in the initial phase and was asked to serve on the Board, was Melvin Laird, previously Chair of the House Republican Conference and Secretary of Defense; he, however, declined because of his prior association with the American Enterprise Institute, which, it was concluded, could have presented the appearance of a conflict of interest.¹⁰⁷

Martha W. Griffiths, formerly a Representative from Michigan, was named to the Board's Chair, and William D. Ruckelshaus Vice Chair.¹⁰⁸ According to Griffiths, she had not been party to the original discussions, but was invited to join the Board by Frye, then asked if she would accept the Chair, which House Speaker Carl Albert encouraged her to do.¹⁰⁹ Subsequently, at the March 1976 meeting of the Trustees, an Executive Committee of the Board was appointed, consisting of Griffiths, Frye, MacDonald, McPherson,

⁹⁸ O'Neill, *Institute for Congress*, C.R., p. 19026.

⁹⁹ MacDonald, telephone interview. It was their suggestion that the Majority and Minority Leaders of the House and Senate sit, *ex officio*, on the Institute's Board of Trustees.¹⁰⁰

¹⁰⁰ Griffiths and Ruckelshaus, *Why Congress Needs Even More Help*, p. 4.

¹⁰¹ Walsh, *A Think Tank for Congress?* p. 37.

¹⁰² *Ibid.*

¹⁰³ *Ibid.* MacDonald, Vance, telephone interviews. *Think Tank for Congress Advances*, p. 1178. *Institute for Congress*, *The Institute for Congress*, p. 12-13. *Institute for Congress*, *Institute for Congress Officially Organized*, C.R., p. 2539-2540. Foley, *Institute for Congress*, C.R., p. 40386. Brademas, *The Institute for Congress Officially Organized*, C.R., p. 40186-40187. Anderson, *Institute for Congress*, C.R., p. 42340-42341.

¹⁰⁴ Killian, telephone interview. *Institute for Congress*, *The Institute for Congress*, Appendix II. *Institute for Congress*, *Institute for Congress Officially Organized*, C.R., p. 2539-2540. *Think Tank for Congress Advances*, p. 1178. *For Foundation Administrators*, p. 2.

¹⁰⁵ *Institute for Congress*, *The Institute for Congress*, p. 8; Appendix II, p. 2. *Institute for Congress*, *Institute for Congress Officially Organized*, C.R., p. 2539-2540. Brademas, *The Institute for Congress Officially Organized*, C.R., p. 40186-40187.

¹⁰⁶ *Institute for Congress*, *The Institute for Congress*, Appendix II.

¹⁰⁷ MacDonald, telephone interview.

¹⁰⁸ *Institute for Congress*, *The Institute for Congress*, Appendix II.

Vance and Lucy Wilson Benson, former President of the League of Women Voters and leader in other civic organizations.¹¹⁰

The Board described its immediate tasks as including the formation of the Congressional Advisory Council, the recruitment of a prestigious scholar to head the Institute, and the general direction of the Institute staff when it should come into existence.¹¹¹ Its earliest activity, however, involved publicizing the Institute and explaining it to those who would be affected. An article on the Institute, under the names of Griffiths and Ruckelshaus jointly, had already appeared in the *Washington Star* in October 1975.¹¹² Ruckelshaus described the Institute while participating, on February 5, 1976, in a symposium entitled "Our Third Century: Directions," sponsored by the Senate Committee on Government Operations; the press release announcing the Institute's establishment, and the Griffiths and Ruckelshaus article, were also reprinted in a volume of readings and bibliography on national priorities and planning, prepared for the committee as an appendix to this symposium by the Congressional Research Service.¹¹³ Articles and editorials on the subject of the Institute appeared in several newspapers around the nation.¹¹⁴ House Majority Leader O'Neill, Senators Percy and Brock, and Representatives Brademas, Anderson and Foley made statements about the Institute in the *Congressional Record*; in many cases they also inserted into the *Record* some of the press materials just mentioned.¹¹⁵

The Search for Funding

During the same period, the Board's most salient task was to begin to accumulate commitments from foundations to the Institute's funding. The preliminary work had been funded by grants, for exploratory studies, of \$68,000 from the William H. Donner Foundation and of \$37,500, plus "more than \$30,000 in support services," from the Carnegie Endowment for International Peace, where Frye's office was located.¹¹⁶ The organizers had already met with sixteen foundations in late 1973, and although Frye felt they liked the concept, they appeared to be wary of becoming closely involved with such immediately political activities as Congressional policy making.¹¹⁷ The organizers felt, however, that the Institute's establishment as a tax-exempt corporation would mitigate such concerns,¹¹⁸ and expressed "moderate . . . confidence" that their goals could be met.¹¹⁹

¹⁰⁹ Griffiths, telephone interview.

¹¹⁰ Killian, telephone interview. Institute for Congress, *The Institute for Congress*, Appendix II, p. 1-2.

¹¹¹ Institute for Congress, *The Institute for Congress*, p. 13.

¹¹² Griffiths and Ruckelshaus, *Why Congress Needs Even More Help*, p. H-1, H-4.

¹¹³ Ruckelshaus, *Testimony*, p. 121-123. Wellborn, *National Priorities and Planning*, p. 445, 447-449.

¹¹⁴ See, for example: *Houston Chronicle*, *Congress Needs Overview*, p. 11794. *Los Angeles Times*, *Congress is Thinking*, p. 4. Lyons, *Congress Pushing an Idea*, C.R., p. 2542. Lyons, *Institute Set Up*, C.R., p. 2543-2544. TerHorst, *Institute for Congress' Time is Here*, p. 8-E.

¹¹⁵ O'Neill, *Institute for Congress*, C.R., p. 19026-19027. Anderson, *Institute for Congress*, C.R., p. 42340-42341. Brademas, *The Institute for Congress Officially Organized*, C.R., p. 40186-40188. Brock, *The Institute for Congress*, C.R., p. 2539-2544. Foley, *Institute for Congress*, C.R., p. 40386. Percy, *Institute for Congress*, C.R., p. 11793-11795.

¹¹⁶ *For Foundation Administrators*, p. 2.

¹¹⁷ Lyons, *Institute Set Up*, C.R., p. 2544. *Think Tank for Congress Advances*, p. 1178. Walsh, *A Think Tank for Congress?* p. 37. *Institute for Congress*, *The Institute for Congress*, p. 14-15.

¹¹⁸ *Institute for Congress*, *The Institute for Congress*, p. 12-13. *Think Tank for Congress Advances*, p. 1178. Lyons, *Institute Set Up*, C.R., p. 2544.

The funds on hand at this point were sufficient for continuing the explorations through June 1976, when a judgment was to be made on the feasibility of proceeding. If this decision was favorable, the Board would plan to begin operations by January of 1977.¹²⁰

The funding search experienced some initial success. The Fleischmann Foundation made the first large commitment, of \$750,000, which together with commitments by a dozen other foundations brought the total to over a million dollars.¹²¹ A number of smaller foundations offered funding guarantees contingent on their being matched in some way by the Ford Foundation, with which the Trustees were engaged in "detailed discussions." The Ford Foundation was interested in participating but did not want to be in the position of being effectively the sole funder.¹²²

Griffiths and Vance also spent some time in calling on foundations in New York to discuss the project.¹²³ Some of the larger foundations appear to have taken the position that the Institute should not be foisted upon Congress with private funding unless Congress genuinely desired its establishment, but that if, on the other hand, Congress did so desire, it should and would fund the Institute itself.¹²⁴ Persons speaking for the Institute, however, particularly Frye and Griffiths, argued that independent funding was needed because the Institute's ultimate success required it to establish its professional autonomy and nonpartisan character from the first. Moreover, the period of the initial experiment must be long enough to give Congress a fair chance to judge its usefulness before making its own commitment to the Institute.¹²⁵ In addition,

the independence and flexibility of private financing at the outset offer the greatest promise of creating an environment capable of attracting an exceptional professional staff.¹²⁶

Organizers therefore maintained that the Institute should not begin operations until funding for the first three years was assured.¹²⁷ Consequently, the Institute did not fall back much, during the course of its search, from its original goal of \$11 million for the first three years and \$23 million for the first five.¹²⁸

Some of those interested in the Institute, in fact, asked whether it would ever be likely to receive its entire funding from contracts with Congress, as originally contemplated, and whether it should become entirely dependent on such funding, on the grounds that this source might be subject to severe fluctuations.¹²⁹ Advocates

¹²⁰ Alton Frye, quoted in *Think Tank for Congress Advances*, p. 1178. See also Walsh, *A Think Tank for Congress?* p. 37. Institute for Congress, *The Institute for Congress*, p. 14-15.

¹²¹ *Think Tank for Congress Advances*, p. 1178. Ruckelshaus, *Testimony*, p. 123.

¹²² Frye, Killian, telephone interviews. *Aiding the Congress*, p. 56.

¹²³ MacDonald, telephone interview.

¹²⁴ Griffiths, telephone interview.

¹²⁵ Frye, MacDonald, telephone interviews.

¹²⁶ Frye, Killian, telephone interviews. Institute for Congress, *The Institute for Congress*, p. 12-15. Institute for Congress, *Institute for Congress Officially Organized*, C.R., p. 2539-2540. *Think Tank for Congress Advances*, p. 1178. Walsh, *A Think Tank for Congress?* p. 37. Lyons, *Institute Set Up*, C.R., p. 2544. *Los Angeles Times*, *Congress is Thinking*, p. 4. Foley, *Institute for Congress*, C.R., p. 40386. Brademas, *The Institute for Congress Officially Organized*, C.R., p. 40186. Brock, *The Institute for Congress*, C.R., p. 2539. Anderson, *Institute for Congress*, C.R., p. 42340.

¹²⁷ *Institute for Congress, The Institute for Congress—A Five-Year Experiment*, p. 1.

¹²⁸ See sources cited in note 125.

¹²⁹ Frye, telephone interview.

for the Institute held that once the organization had established its independence, it would be able to take advantage of funding from such sources as private individuals and corporations.¹³⁰

The organizers accordingly set out to encourage foundation participation by dispelling the suspicion that Congress was less than enthusiastic about the Institute. To this end, they brought representatives of interested foundations together at a luncheon meeting with congressional supporters of the Institute on April 28, 1976.¹³¹ This meeting was attended by representatives of the Kresge, Ford, Robert Wood Johnson, Rockefeller, and Richard King Mellon Foundations, the Carnegie Corporation, the Lilly Endowment, and the Rockefeller Brothers Fund.¹³² It was addressed not only by several Trustees, including Killian, but by a number of senior Members of the House and Senate, including House Speaker Carl Albert, Representative Henry Reuss of Wisconsin, and Senator Humphrey.¹³³ These latter are said to have spoken in favor of the Institute with enthusiasm; some of the Institute Trustees present, especially those who had not been particularly involved in the preliminary contacts with Members of Congress, were impressed with the strength of support demonstrated.¹³⁴

Congressional Response

Nevertheless, observers agree that after this meeting Congressional support began gradually to cool.¹³⁵ While no extensive opposition to the plan ever actually surfaced, Congress as a whole never came to focus on the proposal in a sustained way.¹³⁶ Some Members did not accept the claim that the Institute's work would differ significantly from that of existing congressional offices; others did not feel the need of Congress for comprehensive policy analysis to be as critical as the Institute's organizers did.¹³⁷ Some were wary lest the Institute's work would be used primarily to support the congressional majority party, rather than for bipartisan explorations.¹³⁸ A previous proposal by several Members of Congress for a research organization on science policy had experienced difficulties connected with similar questions, and some tended to equate the two efforts.¹³⁹ In the same way, some misapprehension appears to have existed that the Institute's function would be to study, and recommend reforms in, Congress itself. Figures connected with the Institute, accordingly, frequently found it desirable to include disclaimers on these points in their public statements.¹⁴⁰

The organizers' emphasis on the breadth of the staff and the prestigiousness of the scholar to be selected to head it were similar-

¹²⁹ MacDonald, telephone interview. Institute for Congress, *The Institute for Congress*, p. 14-15.

¹³⁰ MacDonald, telephone interview.

¹³¹ Frye, Killian, MacDonald, McPherson, telephone interviews. O'Neill, *Institute for Congress*, C.R., p. 19026-19027. Percy, *Institute for Congress*, C.R., p. 11793. Aiding the Congress, p. 56.

¹³² Killian, McPherson, telephone interviews. O'Neill, *Institute for Congress*, C.R., p. 19026-19027. Percy, *Institute for Congress*, C.R., p. 11973.

¹³³ Frye, telephone interview.

¹³⁴ Frye, Griffiths, Killian, MacDonald, telephone interviews.

¹³⁵ Frye, Killian, MacDonald, McPherson, Vance, telephone interviews.

¹³⁶ Killian, McPherson, telephone interviews.

¹³⁷ Killian, McPherson, telephone interviews.

¹³⁸ Vance, telephone interview.

¹³⁹ Griffiths, telephone interview.

ly intended to reassure Members about the nature of the Institute.¹⁴¹ Members, on the other hand, often saw no need for the degree of professional independence that the organizers contemplated for the staff. The Institute did not encounter serious opposition to such proposals as allowing its staff to undertake one research project annually not subject to congressional veto; nevertheless, few Members thought it inappropriate for Congress to have effective control of the staffs advising it.¹⁴² The question was raised whether Congress would be willing to give financial support to the Institute without placing on it the same constraints it did on existing agencies.¹⁴³

The force of the organizers' argument that Congress needed more adequate research support also began to be diminished by the strengthening of existing research staffs that started to take place at just this period.¹⁴⁴ The General Accounting Office was increasingly moving beyond its traditional auditing function to take on more analytical kinds of work. The Office of Technology Assessment and the Congressional Budget Office, both established during this period, strengthened congressional resources for policy analysis in their respective fields.¹⁴⁵ The Congressional Research Service had expanded its complement of analysts from 223 to 445 within the previous five years; similarly, researchers on committee and individual congressional staffs had by then come to number more than 2600.¹⁴⁶

Consequently, Congress was no longer viewed as being as severely at a disadvantage in this regard, relative to the Executive, as previously. Some, in fact, began at this period to consider that the Congress had become overstaffed rather than the contrary.¹⁴⁷ These changes gave force to the question of whether the proposed Institute could do anything existing staffs were really incapable of doing, in terms either of objectivity, of nonpartisanship, of long-range projects, or of contracting for outside research.¹⁴⁸ In response to these points, Institute proponents again noted the limitations of existing staffs, and argued the possible benefit to Congress of an organization with a different staff posture, that would be more independent and would not create a permanent bureaucracy internal to the Congress.¹⁴⁹

Congressional doubts on these points were to some extent reinforced by positions taken by the existing research staffs themselves. Frye felt that some staff, especially among those in the Office of Technology Assessment and the Congressional Research Service, well understood a congressional need for policy analysis

¹⁴⁰ Institute for Congress, *The Institute for Congress*, p. 5. Institute for Congress, *Institute for Congress Officially Organized*, C.R., p. 2539-2540. Institute for Congress, *The Institute for Congress—A Five-Year Experiment*, p. 1. Griffiths and Ruckelshaus, *Why Congress Needs Even More Help*, p. H-4. Vance, telephone interview. Walsh, *A Think Tank for Congress?* p. 37.

¹⁴¹ Vance, telephone interview.

¹⁴² MacDonald, McPherson, telephone interviews.

¹⁴³ Congressional Research Service, *The Institute for Congress*, p. 5-6.

¹⁴⁴ MacDonald, McPherson, telephone interviews.

¹⁴⁵ MacDonald, telephone interview. Walsh, *Strategic Weapons Policy*, p. 38. Congressional Research Service, *The Institute for Congress*, p. 3-5.

¹⁴⁶ Congressional Research Service, *The Institute for Congress*, p. 3-5.

¹⁴⁷ Frye, telephone interview.

¹⁴⁸ McPherson, telephone interview. *Los Angeles Times*, *Congress is Thinking*, p. 4. Congressional Research Service, *The Institute for Congress*, p. 5-6.

and were enthusiastic about the Institute.¹⁵⁰ Other staff, however, were said to fear that their own work might be either duplicated or devalued by that of the Institute.¹⁵¹ According to Institute proponents, wariness about the Institute on similar grounds also developed in certain sectors of the existing committee staff structure, connected with the fear that their role would be usurped, their jurisdictions invaded, or their own analytical conclusions challenged. The expression of these reservations, which in some instances was quite strong, tended to influence the views of the Members of the corresponding committees, which increased the level of apparent congressional opposition.¹⁵²

In short, the response of Congress to the proposal of the Institute indicated some doubt about both of the major propositions of the organizers: that Congress lacked the quality of expertise needed to secure the most sophisticated kinds of policy analysis for itself, and that doing so required an organization with a mandate to propose policy alternatives, independent of political direction, broader than that which Congress typically allowed to its existing staff arms.

The Concluding Phases

The influence of the considerations just described increased the caution with which some segments of Congress viewed the Institute, and this increased caution communicated itself to the foundations that were considering funding the Institute, making them also more cautious.¹⁵³ Foundations themselves may also have shared some of the reservations expressed within the congressional establishment, such as that the increased size and analytical capacity of existing staffs made a new organization less necessary.¹⁵⁴ In addition, changes in the leadership of Congress at about this time meant the loss to the Institute's cause of strong support in some of the most influential positions.¹⁵⁵

In the end, the Institute never received the commitments of funding from large foundations that would have been essential to their intended mode of proceeding.¹⁵⁶ Griffiths, at least, came to the conclusion that the levels of support for which the Trustees had been asking the various foundations were unrealistically high, amounting in some cases to ten per cent of a foundation's annual budget for grants; other Trustees may have concurred.¹⁵⁷ In any case, although the million dollars previously mentioned was raised, the funding levels required for multi-year support of the Institute were never achieved.¹⁵⁸

In response to these developments, the Trustees began to consider alternative methods of funding. There was apparently no strong opposition on the Board to the Institute's receiving a portion of its funding from a congressional appropriation. Trustees also held that, as the appropriation required would amount only to such a

¹⁴⁹ Frye, McPherson, telephone interviews.

¹⁵⁰ Frye, telephone interview.

¹⁵¹ Frye, MacDonald, McPherson, telephone interviews.

¹⁵² MacDonald, Vance, telephone interviews. Walsh, *Strategic Weapons Policy*, p. 38.

¹⁵³ Frye, MacDonald, telephone interviews.

¹⁵⁴ Frye, telephone interview.

¹⁵⁵ Killian, MacDonald, telephone interviews.

¹⁵⁶ Frye, telephone interview.

¹⁵⁷ Griffiths, telephone interview.

relatively small figure as \$4 million a year, there would be little strong opposition in Congress to providing it.¹⁵⁹ McPherson, in particular, argued that funding by Congress might be a positive advantage, in that it might increase congressional confidence that Institute analysts were aware of their position as working for the Congress. In addition, he suggested, early participation by the Congress might help to solidify its support for the Institute, and over the long run Congress might be more reliable than private sources as a steady source of funds.¹⁶⁰ By late 1976 it was expected that

... after the organization has established a record and a reputation for nonpartisanship ... about one-half of the support, for the first five years at least, ... [would] come from congressional contracts.¹⁶¹

By early 1977, the Board was also considering the feasibility of some plan under which Congress would match privately provided funds for the Institute. Another plan would have involved some form of link between the Institute and the Library of Congress.¹⁶² None of these alternatives, however, proved able to resolve the funding problems the Institute faced.

The Institute's problems at this period were complicated by an increase of other commitments among the Trustees. MacDonald returned to his duties as Director of the Environmental Studies Program at Dartmouth College.¹⁶³ Griffiths, who believes she was invited to chair the Board because it was expected that she would be able to devote much time to the project, became unable to do so for personal reasons.¹⁶⁴ Much of the organizing work after the April 28th meeting was necessarily left to Frye and McPherson; McPherson, however, increasingly had to attend to other concerns as well.¹⁶⁵ After the beginning of 1977, Vance returned to government service as Secretary of State, which compelled his resignation from the Board.¹⁶⁶

Early in 1977 the Board determined that if the requisite support from congressional leadership and from funding sources was not in sight by the end of the year, the project would be terminated.¹⁶⁷ The Trustees at this point felt that the concept retained its basic desirability,¹⁶⁸ that research scholars would still have welcomed the opportunity to serve with the Institute,¹⁶⁹ and that enough funds to maintain the existing level of activity were still available.¹⁷⁰ Obstacles, however, existed, including finding supporters willing to pursue the necessary tasks with sufficient intensity.¹⁷¹ By the end of 1977, the Trustees judged that the prospects for the required breakthroughs did not justify a continued effort, returned

¹⁵⁸ Frye, telephone interview.

¹⁵⁹ MacDonald, telephone interview.

¹⁶⁰ Ibid.

¹⁶¹ *Aiding the Congress*, p. 56.

¹⁶² Killian, Vance, telephone interviews.

¹⁶³ MacDonald, telephone interview.

¹⁶⁴ Griffiths, telephone interview.

¹⁶⁵ MacDonald, telephone interview.

¹⁶⁶ Killian, MacDonald, Vance, telephone interviews.

¹⁶⁷ MacDonald, telephone interview.

¹⁶⁸ Frye, Killian, telephone interviews.

¹⁶⁹ Vance, telephone interview.

¹⁷⁰ Griffiths, Killian, Vance, telephone interviews.

¹⁷¹ Griffiths, Vance, telephone interviews.

the remaining funds to the granting foundations, and dissolved the venture.¹⁷²

C. CONCLUSION

Proponents of the Institute for Congress evidently assumed that effective policy making must rest on a thorough grounding in authoritative, specialized knowledge, which could be brought to bear most effectively through systematic, comprehensive policy analysis of all possible aspects of a set of related problems. They also believed that such analysis is best carried out from an objective standpoint of inquiry—that is, one avowedly unbound by politically partisan or interest group values or stakes.

From this point of view, the problem of providing policy analysis for Congress is that of integrating comprehensive and objective research into the congressional environment. Among the chief concerns of the Institute's organizers, accordingly, were to ensure that its analysts would have the independence to carry out research untrammelled by political directives, and that its research would be used effectively and relied on in making policy. Also from this point of view, the problem of justifying policy analysis to Congress is that of demonstrating the need for comprehensive and objective research. Therefore, in their approach to Congress, Institute proponents presented the independence of Institute analysts as ensuring nonpartisan research available to all, and policy recommendations founded on a variety of value perspectives. They presented the comprehensiveness of Institute projects as ensuring that its work would not duplicate or threaten, but rather would integrate, that of individual committees and other existing participants.

In several respects, however, these propositions differ from operating principles commonly (if implicitly) held in the political environment. In this environment, policy often stems less from the implementation of a comprehensive analysis than from a recurring series of incremental shifts of emphasis or degree, each of which may serve as a trial through which information may be gained for making subsequent adjustments. It is probable that practicing politicians often assume that policy information ultimately reflects the interest or value perspectives of its source. Accordingly, they tend to regard analysis, even when it presents itself as objective, as not really being distinct in kind from argumentation in avowed support of an explicit policy position. Accordingly, they are likely to make use of such analysis by discounting for the perspective from which it is presented.

Proponents of comprehensive policy analysis appear to regard decision making by such practices as suffering from a lack of "true" analysis. However, some theorists defend these practices as well adapted to effective policy choice. They contend that it is easier to identify and respond effectively to unanticipated consequences of policy choices through incremental feedback processes than to attempt to anticipate them fully in advance through comprehensive analysis. Others take the diversity of value perspectives typical in political situations as requiring the development of numerous partial analyses shaped by the various interests of the participants, and doubt the possibility of a comprehensive analysis proceeding

¹⁷² Frye, Killian, telephone interviews.

from a single standpoint that takes all relevant values into account.¹⁷⁴

From this perspective, political decision making could be regarded not as lacking policy analysis, but as containing within itself a different, and in some respects conflicting, form of policy analysis. For the inclusion of all relevant information, such analysis relies on the presence of participants with different interests, and on the motivation of each of these participants to develop and present the information favorable to his or her own interests. In arriving at policy choices taking various competing analyses into account, this decision making process relies on compromise based on the respective political resources of the interests involved, including the persuasiveness of their argumentation. The adequacy of such analysis may accordingly depend on whether all pertinent value perspectives are effectively represented in the political process. In contrast, the intent of comprehensive analysis to incorporate all pertinent values may, its advocates have suggested, allow it to avoid this problem.

The form of analysis implicit in political decision making is, in short, one that operates essentially through continual and remedial processes of mutual influence among numerous participants. The form contemplated by Institute proponents, on the other hand, assumes a sharper separation between the stage of policy analysis and that of policy making than is often true in practice. The originators of the Institute, implicitly taking comprehensiveness and objectivity to be fundamental requisites of all systematic policy analysis, seem to have tended to presume that congressional skepticism about the Institute could only arise from lack of appreciation for the contribution systematic policy analysis could make. However, it is possible to view such resistance as based instead on an implicit congressional critique of the form of policy analysis to be conducted by the Institute and of their contention that such analysis is worth having.

For example, some Members, accustomed to the form of policy analysis already incorporated into the political process, may have been skeptical about a proposed arrangement that seemed intended to foster Institute influence on Congress while restricting congressional influence on the Institute. Similarly, the hesitancy of foundations to fund the Institute fully need not have stemmed only from their doubts about congressional support. They also appear to

¹⁷⁴ For a discussion of 'synoptic' and 'incremental' decision making, roughly equivalent to the 'comprehensive' and 'political' forms of analysis described here, see Braybrooke, David, and Charles D. Lindblom, *A Strategy of Decision: Policy Evaluation as a Social Process*. New York, Free Press of Glencoe, 1963. See also: Lindblom, Charles E. *Strategies for Decision Making*. Urbana, Ill., Dept. Of Political Science, University of Illinois, 1972. Bach Stanley, *Policy Making in the House of Representatives: The Prospects for a More Integrative and Comprehensive Approach*. In Advisory Committee on National Growth Policy Processes to the National Commission on Supplies and Shortages. *Forging America's Future: Strategies for National Growth and Development*. Appendix—Vol. II. Washington, 1976. U.S. Library of Congress. Congressional Research Service. *Coping with Dispersed Policy Making: A Comparison of Legislative and Executive Strategies*. Special Report, by Stanley I. Bach, Feb. 1, 1978. Washington, 1978. For discussion of rationality through interactive processes, see: Lindblom, Charles E. *The Intelligence of Democracy: Decision Making through Mutual Adjustment*. New York, Free Press, 1965; esp. ch. 1, 10-15. Lindblom, Charles E. *The Policy-Making Process*, 2d ed. Englewood Cliffs, N.J., Prentice-Hall, 1980, ch. 2-5, 10-11. Habermas, Jürgen. *Knowledge and Human Interests*. Translated by Jeremy J. Shapiro from *Erkenntnis und Interesse*. Boston, Beacon Press, 1965; esp. ch. 6, 7, and, on 'monologic' vs. 'dialogic' modes of thought, ch. 8-12. These sources also bear on the propositions suggested in the following paragraph.

have been diffident about involvement with a project so closely bound up with immediate influence on policy decisions. The organizers desired initial foundation funding precisely in order to protect the Institute from political influence, but by the same token, foundations may have seen their involvement as likely less to secure the Institute's reputation for political independence than to jeopardize their own.

The historical context also may have hindered the organizers' efforts to provide Congress with policy analysis through the Institute. To be sure, the contemporaneous struggle for the reassertion of congressional influence, as through the War Powers Resolution and the Congressional Budget and Impoundment Control Act, emphasized the need for enhanced congressional policy making capacities. Motivated by this need, however, Congress already was in the process of strengthening its own resources for policy analysis, through establishing the Congressional Budget Office and the Office of Technology Assessment, broadening the missions of the Congressional Research Service and the General Accounting Office, and continuing to expand professional committee staff. As events showed, Congress preferred making greater use of arrangements with which it already was familiar and comfortable to adopting new ones whose rationale may have depended on a conception of policy analysis that Members may not have shared or trusted.

To the extent that these reflections are valid, they suggest that future consideration of the role of policy analysis in the congressional process may continue to involve, as the discussion of the Institute for Congress involved, not only problems of the structural arrangements proposed, resources, priorities, timing, and individual personality differences, but also the very concept, nature, and form of policy analysis itself.

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Also in remarks of Charles H. Percy in the Senate. Congressional record, v. 122, Apr. 29, 1976: 11795.

Same, with elisions, titled A better idea to improve Congress. New York daily news, Dec. 15, 1975: 8.

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CHAPTER 16. INTERDISCIPLINARY STUDIES ON THE FUTURE

(The following selections are excerpted from *Ominous Trends and Valid Hopes* by Magda Cordell McHale with permission of the Center for Integrative Studies—SUNY Buffalo)

A. A SEAMLESS WEB¹

The search for "modernization" is now a universal phenomenon. Commitment by governments to policies of deliberate change in economic and social conditions completed its sweep of the world community of nations when the political heirs of Mao-tse-tung adopted the "four modernizations" as the center piece of Chinese policy for the rest of this century. At the same time, the most "advanced" industrial societies are faced with a different kind of modernization problem: the need for structural adjustments to changing technology and to environmental, energy and resource constraints. Thus the management of social change can be seen as a central political task for the world at large—and a pervasive test of institutional capacity to cope with contemporary problems a national and international levels.

It is obvious that modernization is an inherently destabilizing process, for it is a prime agent of social transformation. It brings the universal urge for modernization face-to-face with the universal need for some measure of social continuity. This involves excruciatingly different choices as to what must be changed in the interests of human progress and what must be preserved in the interests of human progress and what must be preserved in the interests of cultural integrity. If these unavoidable trade-offs drive the process of change too far and too fast—or if they suppress it for too long—the predictable outcome, sooner or later, is a political explosion, all too likely to be featured by violence. The trick, of course, is somehow to keep the pull of change and the counter-pull of continuity in a state of creative tension.

If national and international institutions of governance can manage the process of modernization with reasonable effectiveness in the decades ahead, there are good reasons to hope for a relatively painless passage to the twenty-first century. But if they collapse or become paralyzed, we surely can expect an accelerating slide toward revolving chaos, tyranny and violence.

The five global studies reviewed in the pages that follow throw fresh light on the deeper dimensions of the politics of modernization—dimensions that extend to the very way we perceive and think

¹ Wilson, Jr., Thomas. Introduction. *Ominous Trends and Valid Hopes*, by Magda Cordell McHale. Hubert H. Humphrey Institute of Public Affairs, U. of Minnesota, Minneapolis, 1981. p. v-vii.

about the interdependence of the human condition, the state of the planet and the course of world affairs.

For one thing, we shall be required to abandon the old habit of looking at things in the framework of either-or dichotomies. We can no longer classify all problems as either "domestic" or "foreign", for many are both at one and the same time. We can no longer sort things out for either "public" or "private" jurisdiction, for many contemporary issues straddle the two domains. Nor can we separate problems into "macro" or "micro" categories, for some of the most pressing problems today are simultaneously local and global--and each level can be as complex, sophisticated and important as the other.

Moreover, discrete subjects have become thoroughly entangled in compound, systemic problem areas. Population, hunger and unemployment, for example, now must be perceived as interacting components of the general problem of poverty, for which there is no one solution but many complementary lines of action requiring an overall strategy and endless variations of local solutions.

Yet almost all governmental institutions have been designed, mandated and organized in keeping with academic disciplines, specialized professions, economic sectors or technical functions--equipped, that is, to work on one problem at a time when the need today is not to isolate but to integrate concepts, policies and programs of action. Moreover, governmental decision-making machinery is generally hierarchical in structure when the need now is not vertical centralization but horizontal organization of the full resources of governance for the management of natural and man-made systems.

The long and short of it is that governmental institutions, as presently designed and organized, are inherently incapable of coping effectively with the central reality of contemporary social-political problems. The United States government, for example, does not have the analytical capability even to monitor long-term global trends in the inter-locked areas of population, resources and environment--much less a capacity to analyze their implications for the national interest--still less to formulate alternative policies and strategies for coping with those profound and pervasive factors in current world affairs.

This mismatch between the character of present problems and the design of existing institutions no doubt helps explain a growing crisis in governance that now afflicts most nations--regardless of political ideology, social structure, economic system or stage of development. It helps explain the general paralysis that has overtaken work on the agenda of global affairs in the international community. And--because the very existence of systematic world problems threatens the traditional way of doing things--it helps explain why some governments still seek to ignore the reality of a global predicament that has now been affirmed and reaffirmed in an impressive series of world-level assessments.

Thanks to a cultural pluralism, the management of modernization will make very different demands in different societies. But everywhere it will reach beyond the physical, economic and technical factors to the social, political, psychological and cultural variables of each society at its own stage of transition. And at the deepest

level of the modernization process lie the moral and ethical issues implicit in the unavoidable question for political leadership everywhere: modernization for what?--and for whom?

B. A SENSE OF THE REPORT²

The five reports reviewed here begin with somewhat different assumptions, approaches and purposes. But they all deal with the phenomenon of world-level change which has become so dramatically visible in recent times with the explosive growth in human numbers, the transformation of the earth to human purpose, the increasing range and quantities of materials and energies being exploited, and the possible transition from marginal survival to potential abundance. Taken together, these state-of-the-world studies offer a broad consensus on the general shape of current problems--and on the deep dilemmas that inhibit their resolution. Overall, a sense of the reports is one of the trends that remain ominous and hopes that remain valid. The precarious balance between the two is seen in field after field.

Population (Migration and Labor Force)

For the first time in the experience of the United Nations, long-range world population projections were adjusted downward in 1975, and there are now signs of stabilization in the second decade of the twenty-first century. Yet the world almost surely will be burdened by half again the present population twenty years from now; many developing countries will more than double their human numbers; the composition and distribution of the labor force many undergo significant transformation with difficult economic, political and social consequences; age differentials will become more critical; rural-to-urban migration patterns will continue in developing countries; and transnational flows of refugees from military and political upheavals can be expected in the years ahead.

The World Economy

The world at large has the overall resources to sustain the process of modernization while adopting sustainable patterns of future production and consumption. Yet economic stagnation, unemployment, inflation and existing flaws in international arrangements for trade, investment and monetary affairs all point to a need for changes in the structure of economic systems.

Ecosystems

World economic growth will not be constrained by physical limits of the biosphere. Yet the relationship between human activity and natural ecosystems will have to be put on a more sustainable basis; the integrity of land, air and water regimes will have to be protected; and the cost of sound environmental management will continue to grow.

² McHale, Magda Cordell. *Ominous Trends and Valid Hopes*. p. 5 and 6.

Planetary Resources

Global resources appear adequate for continued growth. Yet distribution systems for resources may prove to be inadequate; soil erosion, desertification, drought and possible climatic change threaten world food production; water shortages, deforestation, pollution, and losses in the quantity, quality and diversity of plant and animal genetic resources all demand a difficult transition to sustainable agro-ecosystems as a pre-condition for survival of contemporary civilizations.

Energy

There are many alternative sources of energy to the over-dependence on oil by developed societies and on fuel-wood by developing countries, and a gradual transition to conservation and energy diversity already is under way. Yet there are great uncertainties about future availability and prices for both oil and fuelwood; all of the alternative energy sources require time for development and none is free of problems of one kind or another; and decisions on energy policy appear to face both public apathy and intense conflicts of interest.

Mineral Supplies

Mineral resources will continue to exist in adequate supply well past the turn of the century. Yet these resources are poorly distributed in relation to the areas of their greatest use; access will become more difficult and costly as more remote deposits are developed; and environmental impacts will figure more prominently in the balance of costs and benefits.

Technology

Technology will continue to be an important factor in aiding industrialisation, in efficiency of resource use, in easing economic adjustments, and in environmental management. Yet the adaptation of technologies to social goals and conditions is an extremely complicated task, and constant monitoring and assessment will be necessary in order to prevent the harmful effects of some technologies upon human health, natural systems and social stability.

Development

Development has had many unintended side effects and now faces unprecedented obstacles and constraints. Yet further development—in some measure and in some directions—is required in all societies and will remain a central concern for national and international affairs for the remainder of this century.

The underlying sense of these reports, taken together, is an affirmation of the reality and urgency of a world condition compounded by interactions between a universal drive for development and world trends in the fields of population, resources and environment—a state of affairs that could lead either to multiple disasters or to a new stage in human progress. The underlying message, then, is to stress the imperative need for unprecedented levels of transnational collaboration for managing shared problems in an increasingly interdependent world.

C. SYNOPSES OF THE FIVE WORLD REPORTS³*North-South: A Programme for Survival*

North-South: A Programme for Survival, published in early 1980, is the report of an independent commission chaired by Willy Brandt. The members of the commission were invited to serve in their private capacity, (independent of government instructions), and were chosen for their broad and diverse backgrounds.

The purpose of the commission was "to study the grave global issues arising from the economic and social disparities of the world community and to suggest ways of promoting adequate solutions to the problems involved in development and in attacking absolute poverty."

The three major objectives of the Brandt Commission involved:

1. An examination of 'the record of development in the Third World and the influences on it of the international political and economic environment'.
2. To study 'relevant trends in the world economy, particularly for the 1980's, but also looking further into the future. It will consider the various projections which have been made, concentrating on the likely prospects for the developing and developed countries under different assumptions about measures adopted by the international community'.
3. And, 'to carry conviction with decision makers and with public opinion that profound changes are required in international relations, particularly international economic relations'.

The report assumes that it is the interdependencies, "mutual interests", of not only nations but issues that must be focussed on as a starting point for global reform of North-South relations.

The recommended programme for survival is divided into two parts:

1. An emergency programme which is for the short-term (1980's) and;
2. The longer-term (through the year 2000).

The issues addressed concern: the poverty belts; hunger and food; population and environment; disarmament; commodity trade and energy; industrialisation; transnational corporations; monetary reforms; development finance; and international institutions.

The Global 2000 Report to the President: Entering the Twenty-First Century

The Global 2000 study began with President Jimmy Carter's 1977 Environmental Message requesting the Council on Environmental Quality and the Department of State to undertake an interagency governmental study of population, resources and the environment.* The Global 2000 Report to the President is the response to that request.

Global 2000 is a set of projections of trends in population, resources, and the environment for the entire world, from 1975

³ McHale, Magda Cordell. Ominous Trends and Valid Hopes, p. 127-131.

* The other government agencies involved in the study included: the Department of Agriculture; the Department of Energy; the Department of the Interior; the National Science Foundation; the National Oceanic and Atmospheric Administration of the Department of Commerce; the National Aeronautics and Space Administration; the Agency for International Development of the Department of State; the Central Intelligence Agency; the Federal Emergency Management Agency; and the Office of Science and Technology Policy of the Executive Office of the President.

through the year 2000. Most of the projections in Global 2000 were derived by the various government agencies focussing on their own sector of responsibility. The primary methodologies utilized included: census projection (cohort-component methodology), weighted expert opinion surveys, scenarios, and various computer modelling techniques.

The major assumption of all the projections in the Global 2000 study is that the present national policies regarding population stabilization, resource conservation, and environmental protection continue without change through the year 2000. This assumption is consistent with the report's purpose of establishing a foundation for longer-term planning, leading to policy changes aimed at influencing the study's projected trends.

The Global 2000 study emphasises the complex, long-term, and interdependent nature of population, resources, and environment problems, and the urgency with which they need to be addressed.

World Development Report, 1980

The World Development Report published in August of 1980, is the third report of its kind produced by the World Bank. The Development Report for 1980 emphasises "that the direct attack on poverty, if it is ultimately to be successful, must be combined with measures to ensure that the economies of the developing countries continue to expand."

The report addresses itself to the economic policy choices that developing nations face, and how these choices will effect their growth from 1980-85 and 1985-1990. To illustrate the effects of the policies, two scenarios were generated, designated Low and High. The Low case "shows an unsuccessful adjustment in 1980-85," which depresses growth and that "inadequate foundations are laid for recovery after 1985." The High case illustrates "a much more successful adjustment, with growth slowing less in 1980-85, and accelerating more thereafter." Attainment of the High case is assumed to be the development challenge until 1985.

The report demonstrates how human development (basic human needs) can be an effective investment, assist growth, and reduce absolute poverty. Human development is education and training, improved health and nutrition, and fertility reduction. The World Development Report analyzes the issues and policies for each of these areas and shows their complex interdependencies.

The assumption of the report is "that growth does not obviate the need for human development and other steps to reduce poverty, it must be stressed that the converse is true as well—direct steps to reduce poverty do not obviate the need for growth."

World Conservation Strategy

The World Conservation Strategy was launched in March of 1980. The Strategy was developed by the International Union for the Conservation of Nature and Natural Resources (IUCN), and primarily reflects IUCN's views and approaches on conservation and development. Guidance and financial support were provided by the United Nations Environment Programme (UNEP) and the World Wildlife Fund (WWF).

The IUCN utilized a consultation process in the drafting of the Strategy. Four hundred and fifty government agencies and conservation organizations, associated with IUCN, were polled to elicit their views on both conservation and development priorities.

The goal of the Strategy is "the integration of conservation and development to ensure that modifications to the planet do indeed secure the survival and well-being of all people."

The World Conservation Strategy's objectives are to help advance the achievement of sustainable development through conservation of living resources, to provide a more focussed approach to living resources conservation, and to provide policy guidance in these areas.

The underlying assumption of the Strategy is that "among the prerequisites for sustainable development is the conservation of living resources."

Interfutures: Facing the Future

The Organisation for Economic Cooperation and Development (OECD)* established a study project in 1976 to study "the future development of advanced industrial societies in harmony with that of developing countries." *Interfutures: Facing the Future* documents the result of that project.

The purpose of the project was "to provide OECD member governments with an assessment of alternative patterns of longer term world economic development in order to clarify their implications for the strategic policy choices open to them in the management of their own economies, in relationships among them, and in their relationships with developing countries".

To assess the longer term prospects and effects of various policy choices, *Interfutures* utilizes six scenarios, each with its own set of assumptions and projections.** The four general parameters within which each scenario was constructed were:

1. the nature of the relations likely to establish themselves between developed countries;
2. relations between advanced industrial societies and developing countries and relations between those of the Third World;
3. the internal dynamics peculiar to the developed societies;
4. the internal dynamics specific to the different groups of developing societies.

The time frame for the scenarios is the 1975-2000 period. It should be noted that *Interfutures* has given consideration to the developed nations' relationship with the socialist societies within each of the scenarios.

In summary, the *Interfutures* report emphasises the importance of the capacity to adapt to future changes, the facilitation of Third World development, and an understanding of global interdependence, for policy-makers of the OECD member governments.

* The members of OECD are Australia, Austria, Belgium, Canada, Denmark, Finland, France, The Federal Republic of Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, The Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, The United Kingdom, and The United States

** The projections were generated by the Systems Analysis Research Units' Model (SARUM) of the United Kingdom Department of the Environment.

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CHAPTER 17. SELECTED FUTURE-ORIENTED LITERATURE: AN ANNOTATED BIBLIOGRAPHY

(By Bonnie F. Mangan, Science Bibliographer, Library Sciences Division, with contributions from Dennis L. Little, Specialist in Futures Research and Population Policy, Science Policy Research Division, and Richard Gigax, Assistant Head, Subject Specialization Section, Library Services Division)

A. INTRODUCTION

This chapter provides the reader with an annotated bibliography of a limited number of current, relevant futures oriented writings. It focuses on literature dealing with process or how to think about the future and with selected substantive areas. References from the Library of Congress computerized data bases as well as material acquired from various think tanks focusing on futures studies are listed.

Between September and November 1980, the think tanks described in Chapter 5 were contacted, and where appropriate, were requested to send material for inclusion in this bibliography. This "fugitive" literature, research generated by private consultants most often for government agencies, is included in this bibliography.

The Strategic Planning and Early Warning Systems section focuses on methodology and process (how to think about the future), and relates the experiences of the private as well as the public sector. The material selected was published between 1976 and the present, and was included because it focuses on process and thus does not run as great a risk as publications in the various subject areas of becoming dated. The General Futures section was included to provide the reader with some holistic pictures of the changes which may occur as a result of the pace, complexity, and interrelatedness of changes in our energy, social, economic, technological and political systems. The specific subject areas: Energy and Strategic Materials; Environment and Agriculture; Economics and Labor; Science and Technology; and Government, Law, and Society were selected because they relate most directly to the Committee's jurisdiction; or were of general Congressional interest. Since literature in subject areas runs the risk of becoming dated, materials for the various subject fields and General Futures were selected from items published in 1979, 1980, and 1981.

B. STRATEGIC PLANNING & EARLY WARNING SYSTEMS

Allen, Michael G. Can futures studies penetrate the uncertainty barrier? World Future Society bulletin, v. 10, Nov.-Dec. 1976: 11-14.

"It can be just as dangerous for management to accept a complex business forecast blindly as to reject it out of hand.

Corporate planners must reshape their methods to gain management's understanding and to cope with the decision-paralyzing consequences of expanding uncertainty."

Amara, Roy. The futures field. *Futurist*, v. 15, Feb. 1981: 25-29; Apr.: 63-71; June: 42-46.

A three part series in which the author calls on futurists to define what they do, proposes guidelines for judging work in the futures field, and foresees futurists helping society by improved information monitoring for more effective social planning.

Appelbaum, Richard P. City size and urban life: a preliminary inquiry into some consequences of growth in American cities. *Urban affairs quarterly*, v. 12, Dec. 1976: 139-170.

Discusses findings of a study to determine the tools and information necessary for urban planners to effect a long-term growth policy. The study "sought to combine a general analysis of the correlates of growth in all medium-sized cities, with an in-depth examination of the probable effects of various growth policies on the city itself."

Asking the right questions. *Newsweek*, v. 94, Nov. 19, 1979: 136-138, 140, 142, 144, 147.

"What does the new decade have in store for America and the world? On the premise that such predictions usually go wrong because the prophets fail to ask the right questions, *Newsweek* invited a wide spectrum of thinkers to pose the issues they thought would turn out to be crucial, in areas ranging from nuclear proliferation to economic problems, social attitudes and the weather. From their replies the editors culled the 22 most thoughtful, provocative and occasionally startling questions."

Balachandra, R. Technological forecasting: who does it and how useful is it? *Technological forecasting and social change*, v. 16, Jan. 1980: 75-85.

"Reports on the results of a survey undertaken to estimate the extent of use of Technological Forecasting (TF) in U.S. industry. The results demonstrate that more firms use TF than eight years ago, and the perception of its importance has increased greatly."

Berman, Paul. The study of macro- and micro-implementation. *Public policy*, v. 26, spring 1978: 157-184.

Explores the emerging field of implementation analysis. "The first section charts the domain of implementation analysis--what it is and is not about. The second section sketches the architecture of implementation in social policy sectors. The third proposes a simple model of the process of implementation for local social service organizations."

Blissett, Marlan, ed. *Environmental impact assessment*. [New York] Engineering Foundation [1975] 278 p.

"NSF/RA-760500"

Partial contents.--Environmental impact statements as instruments of environmental assessment.--How the National En-

vironmental Policy Act is implemented.-Techniques for evaluating environmental impacts.-Public participation and environmental assessment.-Environmental planning.

Boucher, Wayne I., ed. *The study of the future: an agenda for research*. [Washington, U.S. National Science Foundation, for sale by the Supt. of Docs., U.S. Govt. Print. Off.] 1977. 316 p.

"NSF/RA-770036"

"As we study our current situation and explore ways to improve it, we find that if we are to enhance human survival and well-being, we must be concerned about the future. For human survival and well-being depend upon our ability to anticipate and cope with future problems and threats, to perceive, evaluate and control the effects of our actions, and to imagine and create more desirable futures." This report "contains an agenda for research which presents a challenge and an opportunity to those who, perform, support, and use research on the future."

Brown, James K. *This business of issues: coping with the company's environments*. [New York] Conference Board [1979] 74 p. (The Conference Board. Report no. 758)

Examines methods corporations use to monitor broad social, economic, political, and technological environments. Based in part on interviews with 100 corporate planners, public affairs personnel and others.

Cazes, Bernard. *French planning in the 1980s; a political agenda*. *Futures*, v. 10, Dec. 1978: 452-458.

"My intention here is to present some personal views on the principal issues which I believe will be prominent in the French political agenda of the 1980s."

Elmore, Richard F. *Organizational models of social program implementation*. *Public policy*, v. 26, spring 1978: 185-228.

"Understanding organizations is essential to the analysis of implementation. The present state of organizational theory does not support a single analytic model. Rather, there are at least four distinct models. Each emphasizes different features of organizations, and each gives a different view of the implementation process." The four models discussed are the systems management model, the bureaucratic process model, the organizational development model, and the conflict and bargaining model.

Enzer, Selwyn. *INTERAX—an interactive model for studying future business environments*. *Technological forecasting and social change*, v. 17, June 1980: 141-159; July: 211-242.

Part I describes the method and philosophy of INTERAX while part II describes how INTERAX generates scenarios and uses them in exploring strategic issues.

Etzioni, Amitai. *Rules for using forecasts and forecasters*. *World Future Society bulletin*, v. 10, May-June 1976: 9-11.

Suggests that forecasters and forecasts are not effectively utilized in U.S. decisionmaking and offers seven rules designed to improve forecasts and stimulate their use.

Fahey, Liam, and William R. King. Environmental scanning for corporate planning. *Business horizons*, v. 20, Aug. 1977: 61-71.

"Failure to anticipate environmental changes [i.e., changes in business setting] is potentially disastrous for the modern corporation. Yet few have integrated environmental scanning techniques into their planning."

Ham, Chris. Approaches to the study of social policymaking. *Policy and politics*, v. 8, Jan. 1980: 55-71.

Suggests "possible future approaches to the study of social policymaking. The paper's main argument is that students of social policy who are interested in policymaking could usefully draw on concepts and theories from the developing field of policy analysis."

Hirschhorn, Larry. Scenario writing: a developmental approach. *APA [American Planning Association] journal*, v. 46, Apr. 1980: 172-183.

"Outlines a method for writing developmental scenarios which enable people to produce surprising yet plausible stories based on unexpected theories of context and mission."

How to get America moving again. *U.S. news & world report*, v. 108, Nov. 29, 1976: 48-58, 63-66.

Views America during the sixteen years since John Kennedy's promises of political, social, and economic change. Discusses some of the problems which will confront Carter when he takes office. Includes statements by twenty prominent Americans on what they believe America's priorities should be during what may be a new political era.

Leveson, Irving. A decade of decision: the U.S. economic outlook for the 1980s and beyond. Croton-on Hudson, N.Y., Hudson Institute, 1980. 48 p.

At head of title: Corporate environment program, issues for the 1980s.

"HI-3152-P"

Posits seven principal themes for the economy in the 1980s which would include: "a difficult but improving economic climate, responding to economic challenges, preeminence of assets along with income, opportunities for innovation and technological change, an economic boom and realignments of capital and labor, more sophisticated consumers exercising greater choice, [and] growing international influences on American economic life." Foresees an economic boom during 1981-1985.

Logistics Management Institute. The International Energy Evaluation System. Washington, U.S. Dept. of Energy [available from NTIS] 1979. 2 v.

"HCP/18602-01/1, HCP/18602-01/2"

The authors describe the methods and applications of the International Energy Evaluation System, a forecasting system used by the Energy Information Administration to provide alternative forecasts of energy prices, supplies, demand, and conversion activities.

Margiotta, Franklin D., ed. *Evolving strategic realities: implications for U.S. policymakers*. Washington, National Defense University Press [for sale by the Supt. of Docs., U.S. Govt. Print. Off.] 1980. 222 p. (National Security Affairs Institute. Seminar series)

Partial contents.--Evolving strategic realities, by F. Margiotta. --Managing U.S.-China relations, by H. Harding.--The growing importance of economics: can the United States manage this phenomenon? by J. Nathan and J. Oliver.--Changing military manpower realities: implications for the next decade, by F. Margiotta. --Perceptions of American power, by E. Ravenal.--Implications for U.S. policymakers, by F. Margiotta.

Michael, Donald N. *Learning from the future*. World Future Society bulletin, v. 13, July-Aug. 1979: 1-15.

"Futures forecasts add to the potential for inspiring responsible and compassionate behavior by providing visions of what might be. And, the exercise of responsible and compassionate behavior, informed by future forecasts, increases the possibility of finding our way to a realization of those visions."

---- Values and strategic planning [by] Donald N. Michael and others. Menlo Park, Calif., SRI International, 1980. 59 p. (VALS report no. 15)

In this values and Lifestyles Report, the authors outline how values can be systematically integrated into corporate plans.

Miller, David C., Richard P. Evans, and Douglas Ferguson. *The demographics of values*. Menlo Park, Calif., SRI International, 1978. 52, [29] p. (VALS report no. 4)

"The present report describes the demographic characteristics of the VALS typology at a macro three-level aggregation (Need-Driven, Outer-Directed, Inner-Directed) and at a more micro six-level aggregation consisting of groups called Survivors, Sustainers, Belongers, Emulators, Achievers, and Inner-Directeds." This technical paper describes methods and gives the VALS weighted multivariate classification algorithm used to analyze field data on a probability sample of the U.S. adult population.

Mitchell, Arnold. *Social change: implications of trends in values and lifestyles*. Menlo Park, Calif., SRI International, 1978. 44 p. (VALS report no. 3)

"This report explores the implications for social change flowing from probable trends in the values and lifestyles of Americans during the coming decade."

Molitor, Graham T. T. *Getting out in front of impending issues. In Through the 80's: thinking globally, acting locally*. Washington, World Future Society, 1980. p. 227-236.

The author contends that it is possible to predict public policy change. He uses examples of consumerism, advertising regulation, food-drug laws and life expectancy to show this possibility.

— How to anticipate public-policy changes. *Advanced management journal*, v. 42, summer 1977: 4-13.

The author claims that businesses need to develop the skill to anticipate and adapt to social and political change. "Through a better understanding of public-policy genesis and development, organizations should be able to foresee public-policy changes and be responsive to them." A public policy prediction model is developed.

Morgan, David R., John P. Pelissero, and Robert E. England. Urban planning: using a Delphi as a decisionmaking aid. *Public administration review*, v. 39, July-Aug. 1979: 380-384.

"This paper reviews the experience of an Oklahoma community with citizen involvement in goal setting for a new comprehensive plan. In addition to a citizen survey in the community, officials successfully used a decisionmaking method that is rather unique to urban planning—a Delphi exercise."

National economic planning: right or wrong for the U.S.? [Washington, American Enterprise Institute for Public Policy Research, 1976] 51 p.

This AEI Round Table held on Apr. 1, 1976, focuses on the controversial Humphrey-Hawkins bill, which represents an effort to achieve full employment and balanced economic growth through central economic planning.

National Planning Association. National planning in a mixed economy. [Washington, c1977] 24 p.

Contents.—National planning in a mixed economy; an NPA joint statement.—Current planning efforts.—Planning and the economy.—The results of national planning.

Norberg, Arthur L., and others. [Structural modeling] *Technological forecasting and social change*, v. 14, Sept. 1979: whole issue.

Partial contents.—Structure and understanding: some observations on current activities in the field of structural modeling, by A. Norberg and G. Johnson.—The use of structural modeling for technology assessment, by H. Linstone, and others.—Structuring the future—application of a scenario-generation procedure, by R. Mitchell, J. Tydeman, and J. Georgiades.

Nuclear Science Advisory Committee. Long range plan for nuclear science. [Cambridge, Mass.?] 1979. 140 p.

Presents, at the request of the National Science Foundation and the Dept. of Energy, a long range national plan for nuclear science based primarily upon scientific opportunities in the field.

Organization for Economic Cooperation and Development. Facing the future: mastering the probable and managing the unpredictable. [Paris, c1979] 425 p.

"Analyses prospects, constraints and issues in the longer-term perspective of the developed countries with particular attention to such subjects as possible physical limits to growth; the interaction between growth, structural adaptation and value changes; as well as relations with developing countries and the interaction between the policies and progress of devel-

oped and developing countries, without neglecting the centrally planned economies."

Perloff, Harvey S., and Melvin R. Levin. Evolution, not revolution. *Planning*, v. 45, July 1979: 28-37.

The authors present two points of view on what lies ahead for planners in the 1980s. Perloff states that "major social swings pay no more attention to decade calendar changes than they do to the more glamorous centennial designations, but there is value in our ritual and stock-taking and forecasting traditions." Levin states that "the most appropriate method of predicting the state of planning in the 1980s is to adopt the old vaudeville routine: there's good news and bad news. The good news is that, as a pragmatic response to tighter budgets and increasing sophistication, the planning function is blooming in a variety of unexpected places, in private as well as public agencies. The bad news is that most of these new planning jobs are going to nonplanners, with lawyers beginning to provide the most serious competition."

Raynard, Herve. Long-range forecasting within organisations. *Futures*, v. 8, Oct. 1976: 420-427.

"The article describes a method for testing and developing personal and organisational strategies. It suggests the establishment of a group which includes the organisation's partners and competitors and which would progress initial 'unrealistic' games to more realistic scenarios."

Roalman, A. R. Making the future durable: how to get people interested in tomorrow. *World Future Society bulletin*, v. 10, Sept.-Oct. 1976: 9-11.

"The future can be introduced successfully into a small business or other group. In this article, a public relations executive tells how his company did it."

Runyan, Dean. Tools for community-managed impact assessment. *Journal of the American Institute of Planners*, v. 43, Apr. 1977: 125-135.

"This article presents a range of social impact assessment techniques [such as cost effectiveness analysis, simulation modeling and input-output analysis] that are available and evaluates their usefulness to local groups. The use of such techniques by local groups can serve to enhance their role in both local and regional scale planning and can provide purposeful activity for volunteer lay groups."

Schwartz, Peter, and James Ogilvy. The emergent paradigm: changing patterns of thought and belief. Menlo Park, Calif. [SRI International] 1979. 62 p. (VALS report no. 7)

"There is emerging evidence that a basic shift is under way in people's ideas and perceptions about the properties of the natural world and the human condition....In this report, the evidence drawn from varied fields of science, philosophy, politics, and the arts is assembled and presented in both summary and more extended form."

Snyder, David P. Informing the decisionmakers. *World Future Society bulletin*, v. 10, Nov.-Dec. 1976: 14-19.

"If the techniques of futurism are to benefit mankind, real-world managers must know how to use them."

Strangert, Per. Adaptive planning and uncertainty resolution. *Futures*, v. 9, Feb. 1977: 32-44.

"The article discusses uncertainty resolution and the approaches to uncertainty in planning. Statically perceived uncertainty may be described more or less explicitly in decision-making. Stating various possible outcomes and, possibly, their numerical probabilities may allow quantitative theory to be applied."

Toffler, Alvin. *The third wave*. New York, Morrow, 1980. 544 p.

The author's premise is that "we are witnessing the death of industrialism and the rise of a new civilization which can be more sane, sensible, sustainable, decent, and democratic than any we have known. The First Wave of change—the agricultural revolution—took thousands of years to play itself out; the Second Wave of industrial civilization took a mere three hundred years; the Third Wave will complete itself in a few decades. Second Wave civilization produced distorting filters (ideas, images, assumptions) that helped create the society of big organizations, centralized bureaucracies, and the all-pervasive marketplace. The two basic subsidies of Second Wave civilization—cheap energy and cheap raw materials—are being lost. The Third Wave brings a new wave of life based on diversified and renewable energy sources, new methods of production, and radically changed schools and corporations. It is, at the same time, both highly technological and anti-industrial. The conflict between today's Second Wave reactionaries of both left and right and proponents of the Third Wave is the superstruggle. The Third Wave is the super-struggle of tomorrow."

U.S. Congress. Senate. Committee on Government Operations. *Our third century: directions; a symposium*. Washington, U.S. Govt. Print. Off., 1976. 2v.

At head of title: 94th Cong., 2d sess. Committee print.

U.S. General Accounting Office. *The environmental impact statement—it seldom causes long project delays but could be more useful if prepared earlier; report to the Committee on Environment and Public Works, United States Senate*. [Washington] 1977. 53 p.

"CED-77-99, Aug. 9, 1977"

"This report evaluates time delays, costs, and other effects of environmental impact statements' preparation on public works projects. It also considers comments from each of the four agencies designated for audit and the Council on Environmental Quality." Recommends that "statements should be completed during the earliest stage of an agency's decisionmaking process—the planning stage."

U.S. Library of Congress. Congressional Research Service. *Long range planning*. Prepared for the Subcommittee on the Environment and the Atmosphere of the Committee on Science and

Technology, U.S. House of Representatives, Ninety-fourth Congress, second session. Washington, U.S. Govt. Print. Off., 1976. 487 p.

"Serial BB"

At head of title: Committee print.

Contents.--Survey of institutional approaches to environmental research and planning.--Comparative analysis of selected organizational arrangements for long-range planning and strategic assessment in the Federal Government. --Long-range planning in the private sector.--Forecasting and futures research.

U.S. President's Commission on Coal. Coal data book. Washington [For sale by the Supt. of Docs., U.S. Govt. Print. Off.] 1980. 235 p.

Presents some forecasts and projections concerning energy consumption and coal.

U.S. Soil Conservation Service. Guide for Environmental assessment. [Washington, 1977] 1 v. (various pagings)

"This publication is a general guide for environmental assessment for Soil Conservation Service personnel to use in resource planning."

Watts, William, and Lloyd A. Free. America's hopes and fears--1976. Washington, Potomac Associates [1976] 27 p. (Potomac Associates. Policy perspectives, 1)

"The people of the United States continue to show a remarkable degree of assurance about their personal lives; yet they express considerable concern about the current state of the nation. They look to the future with optimism, but with greater optimism for themselves than for their country." Contents.--A policy perspective.--The self-anchoring striving scale.--Personal ladder ratings.--The worries and concerns of Americans.--Shifts in priorities of concerns.--Demographic patterns of domestic concerns.--Progress on specific domestic problems.--Overall domestic evaluation.--Progress on specific ladder ratings.--Trends through the years.--A demand for leadership.

Webber, James B., and Rebecca A. Ojala. Introducing futures to the business world. World Future Society bulletin, v. 10, Sept.-Oct. 1976: 3-9.

The authors present a series of brief case studies showing how futures research is being conducted and utilized by American industry.

Williams, David C., and Kathleen B. Hom. Onshore impacts of offshore oil: a user's guide to assessment methods. Washington [U.S. Dept. of the Interior] for sale by the Supt. of Docs., U.S. Govt. Print. Off., 1979. 68 p.

"This User's Guide is designed to help public officials and others concerned with estimating and planning for OCS [outer continental shelf] oil and gas impacts."

Williams, Stephen L. Data base management systems for urban and regional planning. Monticello, Ill., 1978. 107 p. (Council of Planning Librarians. Exchange bibliography 1517 and 1518)

World Future Society. Resources directory for America's third century: an introduction to studies of possible future development in

the United States and the world with a guide to information sources. Washington, 1977. 2 v.

Contents.—Part I. An introduction to the study of the future.—Part II. Information sources for the study of the future.

C. GENERAL FUTURE TOPICS

America in the 1980s. Washington, Congressional Quarterly [1980] 186 p.

Partial contents.—America in the 1980s, by W. Thomas.—America's changing work ethic, by S. Stencel.—Public confidence and energy, by W. Sweet and S. Stencel.—America's changing suburbs, by W. Thomas.

Can we afford to maintain our physical plant? Conservation Foundation letter, Oct. 1981: 1-8.

"As society builds up an ever greater dependence on physical and technological support systems, maintenance and rehabilitation become increasingly burdensome." Concentrates on the growing concern over the condition of the nation's urban infrastructure.

Crocker, Chester A., Mario Greznes, and Robert Henderson. A U.S. policy for the '80s. Africa report, v. 26, Jan.-Feb. 1981: 7-14.

The article examines some crucial choices facing the United States in Southern Africa.

Davis, William Jackson. The seventh year: industrial civilization in transition. New York, Norton, c1979. 296 p.

The author contends that the depletion of natural resources, energy, money and wealth will change the basic structure of society. Because industrial civilization will exhaust the energy and natural resources on which it depends within a few decades, the author believes that a new energy source or a new type of civilization must be developed. Depletion of resources may force the U.S. and the rest of the world into predominantly rural civilizations where people will be distributed according to natural carrying capacities. A re-evaluation of work is foreseen as more people will be working in agriculture to offset the possibility of widespread starvation. The author describes a utopian agrarian society where people master many trades and tasks and learning becomes a pleasurable pastime.

Duignan, Peter, and Alvin Rabushka, editors. The United States in the 1980s. Stanford, Calif., Hoover Institution, Stanford University, c1980. 868 p. (Hoover Institution publication 228)

The twenty-nine essays presented here, written as unofficial background for the Republican Party, are arranged in two parts. Part I, "Domestic Issues," includes fourteen essays on economic policy, government regulation, public opinion, tax and spending limits, tax policy, welfare reform, social security, energy options, environmental policy, health and the government, housing policy, neighborhood revitalization, and higher education. Part II, "Foreign Affairs," offers fifteen essays; four on defense and arms control, five on international economics and six on major nations and regions of the world.

Fitch, Robert M., and Cordell M. Svengalis. *Futures unlimited: teaching about worlds to come*. [Washington] National Council for the Social Studies [1979] 83 p. (National Council for the Social Studies. Bulletin 59)

Partial contents.--Curriculum approaches to teaching about the future.--Innovative methods for teaching about the future.--Inquiry into values and futures education.--Images of the future through science fiction.--Evaluating the outcomes of futures education.--Resources for teaching about the future.

Global Conference on the Future, 1st, Toronto, 1980. *Through the 80's: thinking globally, acting locally*. Washington, World Future Society [1980] 431 p.

Contains papers presented at the first Global Conference on the Future, held in Toronto, Canada, July 20-24, 1980.

Gordon, Theodore J. *American society: emergence of the new power blocs*. Glastonbury, Conn., Futures Group, 1980. 24 l.

The author contends that the areas of change involving power blocs in the public issues of the 1980's are likely to be: "the evolution of a single-issue politics, the rise of Gray Power, new dimensions of terrorism, new issues for minorities, the clash between job security and productivity, and the movement to rationalize government." This paper was presented at the Business Week Conference on the Future, Houston, Texas, March 28, 1980.

Hirschhorn, Larry. *Post-industrial life: a U.S. perspective*. *Futures*, v. 2, Aug. 1979: 287-298.

Looks at the changes taking place in society, particularly in the areas of family life and work. Asserts that social institutions are losing their rigid control over the individual's life course and speculates on the consequences of these changes for post-industrial life scheduling and for future social policy.

Margiotta, Franklin D., ed. *Evolving strategic realities: implications for U.S. policymakers*. Washington, National Defense University Press [for sale by the Supt. of Docs., U.S. Govt. Print. Off.] 1980. 222 p. (National Security Affairs Institute. Seminar series)

Contents.--Evolving strategic realities, by F. Margiotta.--New dimensions of Soviet foreign policy, by V. Petrov.--Managing U.S.-China relations, by H. Harding.--The global impact of energy on U.S. security interests and commitments, by M. Conant.--The growing importance of economics: can the United States manage this phenomenon? by J. Nathan and J. Oliver.--Changing military manpower realities: implications for the next decade, by F. Margiotta.--The citizen soldier and national service, by M. Janowitz.--Perceptions of American power, by E. Ravenal.--Implications for U.S. policymakers, by F. Margiotta.

Mayton, Regina. *The future*. Maxwell Air Force Base, Ala., Air University, Library, 1979. 2 v. (U.S. Air University. Library. Special bibliography no. 185)

Contents.--Part I: International Scene (contains selected unclassified references on the future of the world in general with specific treatment of economics, foreign policy, and politics).--

Part II: Warfare and Strategy, Science and Technology (contains selected references on military aspects, space and technology of the future).

Organization for Economic Cooperation and Development. Facing the future: mastering the probable and managing the unpredictable. [Paris, 1979] 425 p.

"Analyses prospects, constraints and issues in the longer-term perspective of the developed countries with particular attention to such subjects as possible physical limits to growth; the interaction between growth, structural adaptation and value changes; as well as relations with developing countries and the interaction between the policies and progress of developed and developing countries, without neglecting the centrally planned economies."

U.S. Council on Environmental Quality. The global 2000 report to the President: entering the twenty-first century. [Washington, For sale by the Supt. of Docs., U.S. Govt. Print. Off.] 1980. 3 v.

Report concludes that if present trends continue, the world in 2000 will be more crowded, more polluted, less stable ecologically, and more vulnerable to disruption than the world we live in now. Report presents forecasts on population, income, food, fisheries, forests, water, energy, nonfuel minerals, and the environment.

U.S. President's Commission for a National Agenda for the Eighties. A national agenda for the eighties: report. Washington [For sale by the Supt. of Docs., U.S. Govt. Print. Off.] 1980. 214 p.

Contents.—A decade of choices.—The demographic background: toward a portrait of America in the eighties.—Restoring economic growth and stability in the eighties.—A social agenda for the eighties.—Democracy, politics, and institutions in the eighties.—U.S. policy in the world of the 1980s.

An appendix contains summaries of nine panel reports on energy, economics, social policy, government regulation, and foreign relations.

Yankelovich, Daniel, and Bernard Lefkowitz. National growth: the question of the 80s. Public opinion, v. 3, Dec. 1979-Jan. 1980: 44-49, 52-57.

"Heading into the next decade, America faces a difficult choice: whether to reinvigorate the nation's economic base or strive for a high quality of life. The authors take a close look at the way people are 'working through' the problem—and what they may choose."

— The new American dream. Futurist, v. 14, Aug. 1980: 3-15.

Data from social surveys and public opinion polls show changing American attitudes on inflation and the U.S.'s economic future, social institutions, and government. "After decades of deep faith in economic progress, the American public now seems wrapped in a mood of ambivalence and perhaps even pessimism. But results from a number of recent public opinion surveys suggest that out of this ambivalence may eventually come a rough, new national consensus—a kind of new American Dream." The authors present four alternative

models for the future, recognizing that Americans are ready to accept limits on consumption.

D. ENERGY AND STRATEGIC MATERIALS

Attaway, Leland D., and others. Possible future environmental issues for fossil fuel technologies. Washington, U.S. Dept. of Energy [available from NTIS] 1979. 221 p.

"DOE/ET/2880-1"

The report identifies the major environmental issues that are likely to affect the implementation of fossil energy technologies between 1985 and 2000. It considers the environmental impact of oil recovery and processing, gas recovery and processing, coal liquefaction and gasification, direct coal combustion, advance power systems, magnetohydrodynamics, surface oil shale retorting and true modified in situ oil shale retorting.

Balogh, Thomas. Soviet and Western co-operation in energy. Vienna, Vienna Institute for Comparative Economic Studies, 1979. 7 l.

Discusses the international petroleum supply situation, speculates on the future energy supply situation and advocates collaboration in energy research and development in coal gasification, coal liquefaction and nuclear power.

Barnet, Richard J. The lean years: politics in the age of scarcity. New York, Simon and Schuster, c1980. 349 p.

The author explores the notion that the world is running out of basic resources, and also considers who controls the resources. A rough inventory of five critical resources is developed. These include energy, nonfuel minerals, food, water and human skill. With increasing integration of these resources into global systems of control the need to understand the development, operation and control of these systems becomes important.

Bass, Gail, and others. Motivations and possible actions of potential criminal adversaries of U.S. nuclear programs. Santa Monica, Calif., Rand, 1980. 82 p. (Rand report, R-2554-SL)

Partial contents.--Ideologically motivated adversaries.--Economically motivated adversaries.--Personally motivated adversaries: psychotics.--Hostile employees as potential adversaries.--Potential arsonist adversaries of nuclear programs.--Analysis of mass murder.

Bishop, Charles E. Mobility and gasoline supplies for the next ten years. Business horizons, v. 24, Jan.-Feb. 1981: 55-59.

"The biggest obstacle to gasoline conservation is government regulation of the automobile and oil industries. In fact, the emphasis for this decade should be placed on efficiency rather than on conservation."

Brazzel, John M., and Leon J. Hunter. A distributional analysis of trends in energy expenditures by Black households. Washington, U.S. Energy Information Administration, for sale by the Supt. of Docs., U.S. Govt. Print. Off., 1979. 106 p.

"DOE/EIA-0184/30"

"This Analysis Report examines the trends in the distribution of direct energy expenditures between 1974 and 1985 in households headed by blacks and by whites. The focus of this analysis is on the differential impacts on black and white households of different energy prices."

Brodman, John R., and Richard E. Hamilton. A comparison of energy projection to 1985. Paris, Organization for Economic Cooperation and Development, 1979. [18] p. (International Energy Agency. IEA monograph 1)

The authors compare and analyze projections estimating world demand for oil produced by the OPEC countries in 1985. They provide a table comparing the 78 energy studies and 26 individual estimates included in the study.

Brown, Lester R., Christopher Flavin, and Colin Norman. Running on empty: the future of the automobile in an oil-short world. New York, Norton, c1979. 116 p.

"A Worldwatch Institute book," an expanded version of "The Future of the Automobile in an Oil-short World," published in 1979 by Worldwatch Institute, Washington.

Demands on the world's limited supply of petroleum for essential uses, such as heating homes, running factories and producing food, will leave less fuel for automobiles. The authors point out the need for setting priorities for the use of petroleum and call for alternatives to dependence on the automobile.

Brown, William M., and Herman Kahn. An energy perspective for the 1980s and 1990s: a scenario based on guardedly optimistic assumptions. Croton-on-Hudson, N.Y., Hudson Institute, 1980. 34 p. (Hudson perspective series, HPS paper no. 1)

The study concludes that "barring major new upheavals among foreign suppliers (an essential caveat), a substantial diminution in dependence upon OPEC appears likely during the next 5 to 10 years, probably accompanied by declining real prices. This conclusion stems from projections for demand and production which are mostly extensions of recent trends; these projections depend upon little more than energy industries increasing conventional oil production during the 1980s at roughly the rate they experienced during the late 1970s."

---- The future role of geopressed resources in U.S. energy policy (a scenario approach and analysis). Croton-on-Hudson, N.Y., Hudson Institute, 1979. 58 p.

The authors estimate the potential of the geopressed zones of the Gulf Coast as an alternative energy source. The geopressed zones along the coastline of Texas and Louisiana contain natural gas dissolved in hot water under great pressure. The study presents several scenarios for the production of methanol as an energy source during the next 50-100 years.

Cook, Earl. Charting our energy future. *Chemtech*, v. 11, July 1981: 441-445.

Presents progress or prudence as possible energy policy alternatives for the U.S. Advocates the latter, i.e. indigenous al-

ternatives to imported oil, energy conservation, and a strong program for alternative energy systems.

Dobozi, Istvan. Long-term policy responses to the energy crisis: East and West. Vienna, Vienna Institute for Comparative Economic Studies, 1979. 32 l.

Surveys the features of the energy policy behavior of the EEC and the Comecon countries. Considers the extent and areas of transformation in the energy policy behavior of these two groups of countries as a result of the price changes and the transformation of the international energy supply system in the early 1970s.

Energy, the next twenty years: report by a study group sponsored by the Ford Foundation administered by Resources for the Future, Hans H. Landsberg, chairman. Cambridge, Mass., Ballinger Pub. Co., c1979. 628 p.

This study develops seven fundamental "realities" to define the energy problem and proposes various policy options to deal with them. The realities include: the world is not running out of energy; though Middle East oil holds great risk, it is so valuable the world will remain dependent on it for a long time; higher energy costs cannot be avoided but can be contained by letting prices rise to reflect them; environmental effects of energy use are hard to manage, reducing those threats causes higher energy energy costs; conservation is an essential "source" of energy; serious shocks such as short-term supply interruptions and price instability are certain to occur; an energy research and development policy is essential, but no single technical solution will reverse the trend toward higher energy costs. Specific policy recommendations developed by the study group are: "use market forces to price and allocate energy efficiently, because doing so will simplify most other aspects of energy policy; develop ready contingency programs for a sudden interruption in oil imports, because such a cutoff is almost certain to happen somewhere, sometime, with potentially disastrous consequences; recognize that economic and political factors in world oil markets make the cost of imported oil greater than measured by its price; any explicit measures to reduce imports can be economical if the per-barrel cost of achieving the reduction is not too high; encourage energy production—including its equivalent, energy conservation—anywhere in the world, because world energy and economic systems are so interdependent that development in one part of the globe affect everyone; change some of the procedures and programs now used to deal with environmental conflicts, because the important substance of the debates is too often lost in the maze of the process, and the costs of mismanagement are too high to be ignored; use government research and development policies to define policies to define and develop a wide range of information and options, but not to push premature adoption of one or another technology."

Exxon Corporation. Exxon projects world energy scenario to 2000. *World oil*, v. 192, Apr. 1981: 137-140, 145-148.

An excerpt from the new World Energy Outlook, projects supply/demand of all forms of commercial energy. Projections for the People's Republic of China, and the U.S.S.R. and Eastern Europe are included for the first time.

Flavin, Christopher. The future of synthetic materials: the petroleum connection. [Washington, Worldwatch Institute] 1980. 55 p. (Worldwatch paper 36)

World wide economic growth and the development of synthetic materials over the last 30 years corresponds to cheap and abundant supplies of petroleum and natural gas. However, rising fuel prices will necessitate improved efficiency in the production and use of synthetic materials.

Futures Group. The market potential for electrolytic hydrogen. Palo Alto, Calif., Electric Power Research Institute, 1979. 1 v. (various pagings)

"The economics of hydrogen production by the major users of hydrogen (petroleum refiners and manufacturers of ammonia and methanol) favor the continued use of fossil fuels for hydrogen generation. However, there are a large number of miscellaneous (specialty) small users for whom hydrogen produced by advanced electrolyzers may become economically attractive." This study analyzes the small user hydrogen market and determines the market potential to the year 2000 for electrolytic hydrogen.

Mann, Charles E., and James N. Heller. Coal and profitability: an investor's guide. [Hightstown, N.J.] Coal Week [c1979] 126 p.

The authors discuss factors which will affect coal prices and profitability over the next ten years. They forecast coal prices through 1985 and discuss what the coal industry might look like in the year 2000.

Mikesell, Raymond F. New patterns of world mineral development. [London] North American Committee [c1979] 104 p.

This report "addresses the central problem of how adequate supplies of nonfuel minerals for the world economy can be assured over the remainder of this century. It brings out the complexities of modern mining projects and the reasons for the very large increases not only in costs but in lead times that have to be faced."

Montbrial, Thierry de. Energy: the countdown; a report to the Club of Rome. Oxford, New York, Pergamon Press [1979] 256 p. (Pergamon international library of science, technology, engineering, and social studies)

Partial contents.—The oil crisis and international relations since October 1973.—The nuclear energy crisis.—Geopolitics and energy policy.—Global energy demand.—Anticipating the second energy crisis to try to avoid it.—Future evolution of the price of energy.

National Academy of Science, Washington, D.C. U.S. energy supply prospects to 2010. Washington, 1979. 213 p. (Study of nuclear and alternative energy systems)

Presents estimates and scenarios of fossil fuel, atomic energy, alternative energy sources and electric power supplies through 2010.

National Research Council. Committee on Nuclear and Alternative Energy Systems. *Energy in transition, 1985-2010; final report.* San Francisco, W. H. Freeman, 1979. 677 p.

Partial contents.—Slowing the growth of energy consumption.—Oil and gas supply.—Coal.—Nuclear power.—Solar energy.—Controlled nuclear fusion.—Geothermal energy.—Risks of energy systems.

National Research Council. Supply and Delivery Panel. Solar Resource Group. *Domestic potential of solar and other renewable energy sources.* Washington, National Academy of Sciences, 1979. 87 p. (Study of nuclear and alternative energy systems: supporting paper 6)

Estimates the energy costs and potential market penetrations of solar, wind, biomass and ocean thermal energy conversion technologies under a variety of assumptions. The estimates are calculated for a base scenario of normal development of the solar market and special scenarios estimating various levels of government support.

Oklahoma. University. Science and Public Policy Program. *Energy from the West; energy resource development systems report.* Washington, U.S. Environmental Protection Agency [available from NTIS, 1979] 156 p. (Interagency energy-environment research and development series, EPA-600/7-79-060a)

"This report describes the technologies likely to be used for development of coal, oil shale, uranium, oil, natural gas, and geothermal resources in eight western states (Arizona, Colorado, Montana, New Mexico, North Dakota, North Dakota, South Dakota, Utah, and Wyoming). It "examines the development of these energy resources in the eight states from the present to the year 2000."

Russell, Miles C. *Solar photovoltaic/thermal residential systems.* [Springfield, Va., Available from NTIS] 1979. 47 p.

"COO-4577-9"

"This report presents the results of a conceptual design study using computer simulation to determine the physical and economic performance of combined photovoltaic/thermal collector heat-pump solar systems for a single-family residence. Economic analyses are based upon projected costs for a 1986 system installation. The results show that PV/T collector systems can be economically competitive for a cold climate residence, that systems employing on-site electrical storage batteries are not economically competitive with utilityinteractive systems, and that an ambient-air-source heat-pump system has a lower life-cycle cost than a solar-source heat-pump system."

Schmid, Hans L. *The Swiss energy concept.* Vienna, Vienna Institute for Comparative Economic Studies, 1979. 15 l.

Describes Swiss energy policy objectives and 13 different scenarios up to the year 2000 which differ with respect to energy

policy measures as well as energy demand and supply projections.

Schramm, Lester W. U.S. shale oil forecasts (1985-1995). Washington, U.S. Energy Information Administration, 1980. 25 p.

"DOE/EIA-0183/20"

"Provides forecasts of shale oil production until 1995 under low, medium and high world oil price scenarios shown in the 1978 Energy Information Administration, Annual Report to Congress. The methodology used is to estimate a point in time when shale oil will become competitive with imported oil, make allowance for the time required to prepare technology and build the initial plants, and estimate a rate of expansion for the industry. According to the forecasts, the assumed low world oil price trajectory would not provide any incentive to industry to build oil shale plants during the time frame considered, while the medium price path would provide very little incentive, if any, before the early to mid 1990's. The assumed high world price, however, which rises rather rapidly throughout the forecast period, would provide a moderately strong incentive by the mid 1980's."

Schurr, Sam H., and others. *Energy in America's future: the choices before us*. Baltimore, Johns Hopkins University Press [1979] 555 p.

Study includes considerations of "energy demand, consumption, and the economy; all likely sources of supply; impact on health, safety, and the environment; and their complex interrelation-long term and short."

---- An overview and interpretation of *Energy in America's Future: the Choices Before Us*. Washington, Resources for the Future, 1979. 65 p.

The authors summarize the major findings and central conclusion of the National Energy Strategies Project. They contend that a long-run energy strategy must assure an adequate energy supply, encourage conservation, and protect the environment and human health.

Steele, Robert V., and others. *Leading trends in environmental regulation that affect energy development; final report*. [Washington] U.S. Dept. of Energy, Division of Environmental Impacts [available from NTIS] 1980. 318 p.

"DOE/EV-01682"

"The work reported here was carried out for the Department of Energy to identify and assess major environmental issues that are likely to affect the implementation of energy technologies between now and the year 2000. The energy technologies specifically addressed are: oil recovery and processing; gas recovery and processing; coal liquefaction; coal gasification (surface); in situ coal gasification; direct coal combustion; advanced power systems; magnetohydrodynamics; surface oil shale retorting; true and modified in situ oil shale retorting; geothermal energy; biomass energy conversion; and nuclear power (fission)."

Taylor, Vince. *Energy: the easy path*. Cambridge, Mass., Union of Concerned Scientists, 1979. 80, A49 p.

"Examines the widely held belief that alternatives to oil and gas, especially nuclear power, must be urgently developed to avoid relatively near-future energy shortages of a magnitude that would imperil modern society." Concludes that "the maximum potential contributions of nuclear power, synthetic fuels, fusion, etc., would be far too small to offset the decreases in oil and gas production that, in the conventional view, are expected to occur near the turn of the century."

Twiss, Robert H., and others. *Land use and environmental impacts of decentralized solar energy use*. [Washington] U.S. Dept. of Energy [available from NTIS] 1980. 1 v. (various pagings)
"DOE/EV-0067"

The authors "examine the physical, spatial and land-use impact of decentralized solar technologies applied at the community level by the year 2000. The results of the study are intended to provide a basis for evaluating the way in which a shift toward reliance on decentralized energy technologies may eventually alter community form."

U.S. Central Intelligence Agency. National Foreign Assessment Center. *USSR: coal industry problems and prospects*. [Washington, Available from NTIS] 1980. 20 p.
"ER 80-10154"

Discusses the role of the coal industry in Soviet energy strategy. Assesses the causes of the current lag in production and analyzes the problems and prospects in the development of new Siberian coal basins. Examines Soviet supply/demand relationships for coal during the 1980s.

—The world oil market in the years ahead [Washington] 1979.80 p.
"ER 79-10327U"

Finds that the world can no longer count on increases in oil production to meet its energy needs and that the world does not have years in which to make a smooth transition to alternative energy sources. Explores the future of oil production restraints which have been imposed by many countries.

U.S. Congress. House. Committee on Interior and Insular Affairs. Subcommittee on Energy and the Environment. *National and regional power needs through the year 2000*. Oversight, hearing, 96th Cong., 1st sess. Part III. July 16, 1979. Washington, U.S. Govt. Print. Off., 1980. 147 p.
"Serial no. 96-8"

U.S. Congress. House. Committee on Science and Technology. Panel concerning the longrange energy needs of this and other nations. Hearing, 96th Cong., 1st sess. May 7, 1979. Washington, U.S. Govt. Print. Off., 1979. 33 p.
"No. 12"

U.S. Congress. House. Committee on Science and Technology. Subcommittee on Energy Research and Production. *Nuclear energy*

production in the coming decade. Hearing, 96th Cong., 1st sess. Sept. 20, 1979. Washington, U.S. Govt. Print. Off., 1980. 197 p.

"No. 86"

--- Uranium supply and demand. Hearing, 96th Cong., 1st sess. May 31, 1979. Washington, U.S. Govt. Print. Off., 1979. 244 p.

"No. 18"

U.S. Congress. Joint Economic Committee. Subcommittee on Energy. Employment impact of the solar transition; a study. Washington, U.S. Govt. Print. Off., 1979. 49 p.

At head of title: 96th Cong., 1st sess. Joint committee print.

U.S. Congress. Office of Technology Assessment. Alternative energy futures. Part I--The future of liquefied natural gas imports. Washington [For sale by the Supt. of Docs., U.S. Govt. Print. Off., 1980] 126 p.

"OTA-E-110"

Evaluates "the economic and energy implications of any future liquefied natural gas (LNG) imports."

U.S. Congress. Senate. Committee on Energy and Natural Resources. Subcommittee on Energy Conservation and Supply. Six-year review of energy by the Harvard University School of Business. Hearing, 96th Cong., 1st sess. July 27, 1979. Washington, U.S. Govt. Print. Off., 1979. 94p.

"Publication no. 96-55"

The authors of "Energy Future; Report of the Energy Project at the Harvard Business School" discuss their findings with the subcommittee.

U.S. Congressional Budget Office. The world oil market in the 1980s: implications for the United States. Washington, For sale by the Supt. of Docs., U.S. Govt. Print. Off., 1980. 79 p.

Partial contents.--Projections of U.S supply and demand for oil.--The world oil market and oil prices in the 1980s.--Oil and the value of the dollar.--Security of supply.

U.S. energy outlook: 1980-1990. World oil, v. 192, Mar. 1981: 93-94, 96, 98, 100, 102, 104.

"Energy demand in the U.S. will continue to grow throughout the next decade, but the rate of growth will be lower than that experienced in the 1970s. This article examines both the demand and all available supplies of energy for the U.S. from 1980 to 1990."

U.S. Energy Information Administration. A comparative assessment of five long-run energy projections. [Washington] 1979. 122 p.

"DOE/EIA/CR-0016-02"

"This report compares five major long-term forecasts prepared under similar assumptions. After summarizing the method of preparation of each forecast, the report compares the results in detail and explains the differences both in terms of data assumptions and methodological approach."

U.S. General Accounting Office. Analysis of current trends in U.S. petroleum and natural gas production; report to the Congress by

the Comptroller General of the United States. [Washington] 1979. 58 p.

"EMD-80-23, Dec. 7, 1979"

"This report analyzes the future trends in U.S. petroleum and natural gas production in the light of the physical factors affecting that production. [It] indicates that it is very unlikely that U.S. petroleum and natural gas production can be increased above or even held at current levels."

- Factors influencing the size of the U.S. strategic petroleum reserve; report to the Congress by the Comptroller General of the United States. [Washington] 1979. 42 p.

"ID-79-8, June 15, 1979"

"Present plans for a petroleum reserve to protect against future oil supply interruptions call for a reserve of one billion barrels at the cost of \$25 billion. No study, however, has shown the optimal or most desirable reserve size. This report examines the Department of Energy analysis behind the currently planned size of the reserve and discusses factors influencing its optimal size."

- Oil and natural gas from Alaska, Canada, and Mexico-only limited help for U.S.; report to the Congress by the Comptroller General of the United States. [Washington] 1980. 85 p.

"EMD-80-72, Sept. 11, 1980"

"The gap between U.S. oil and natural gas consumption and production is expected to continue, even widen during the 1980s. Although Alaska's resources appear promising, minimum time for development will limit its contribution. Canadian oil exports are being phased out, and its optimistic gas potential is not expected to result in large exports in this century. Mexico will probably become a primary source of U.S. oil imports over the next decade. Even so, anticipated oil and gas from Alaska, Canada, and Mexico will not be sufficient to offset anticipated domestic production declines."

- Questions on the future of nuclear power: implications and trade-offs; report to the Congress by the Comptroller General of the United States. [Washington] 1979. 27 p.

"EMD-79-56, May 21, 1979"

"The trends GAO has projected indicate that, if actions are taken to limit or halt the growth of nuclear power, they must be accompanied by actions to severely limit electricity requirements or programs to expand coal supply or other nonnuclear fuels. Otherwise serious shortfalls of electricity supply are likely to occur in the 1980s."

- Water supply should not be an obstacle to meeting energy development goals; report to the Congress by the Comptroller General of the United States. [Washington] 1980. 79 p.

"CED-80-30, Jan. 24, 1980"

"Disputes the common impression that the energy industry's thirst for water will create severe shortages throughout the water-short, energy-rich West. Recent evidence indicates that these predictions are unfounded or outdated and that adequate

water is available for energy development through at least the year 2000."

U.S. Library of Congress. Congressional Research Service. Are the electric utilities gold plated? A perspective on electric utility reliability. A study prepared at the request of the Subcommittee on Energy and Power, Committee on Interstate and Foreign Commerce, United States House of Representatives. Washington, U.S. Govt. Print. Off., 1979. 62 p.

At head of title: 96th Cong., 1st sess. Committee print 96-IRC 12.

U.S. National Bureau of Standards. Foresight, volume 1--societal aspects of hydrogen energy systems. Prepared for the Subcommittee on Advanced Energy Technologies and Energy Conservation Research, Development and Demonstration of the Committee on Science and Technology, U.S. House of Representatives, Ninety-fifth Congress, second session. Washington, U.S. Govt. Print. Off., 1979. 161 p.

At head of title: Committee print.

"Serial YYY"

U.S. President's Commission on Coal. Coal data book. Washington [For sale by the Supt. of Docs., U.S. Govt. Print. Off.] 1980. 235 p.

Provides graphs, charts and statistics on U.S. coal production, consumption, reserves, prices, transportation, and regulation. Presents some forecasts and projections concerning energy consumption and coal.

Van Til, Jon. A new type of city for an energy-short world. *Futurist*, v. 14, June 1980: 64-70.

Develops five energy supply scenarios and discusses the implication of the scenarios for urban transportation and urban planning.

Weigel, Henry S. Demand for world coal through 1995. Washington, U.S. Energy Information Administration, available from NTIS, 1979. 32 p.

"DOE/EIA-0184/8"

"The purpose of this report is to present an analysis of world coal trade, demand, and coal use by electric utilities for the years 1985, 1990, and 1995. Because of lack of data, coal use by electric utilities was done only for member countries of the Organization for Economic Cooperation and Development (OECD)."

E. ENVIRONMENT AND AGRICULTURE

1980 agricultural outlook; papers presented at the Agricultural Outlook Conference sponsored by the U.S. Department of Agriculture, held in Washington, D.C., November 5-8, 1979. Washington, U.S. Govt. Print. Off., 1979. 607 p.

At head of title: 96th Cong., 1st sess. Committee print.

"Printed for the use of the Committee on Agriculture, Nutrition, and Forestry."

Chou, Marylin, and David P. Harmon, Jr., editors. Critical food issues of the eighties. New York, Pergamon Press [1979] 404 p.

"Critical Food Issues of the 1980s is a collection of presentations and papers organized around four major topics. The first section covers the socioeconomic climate likely to face the food industry and the country over the next decade, followed by a discussion in the second section of the changing nature of food and nutrition policies. The third section covers the outlook for technology and the associated impact of regulation—not only for food, but also for agricultural productivity and agricultural chemicals. The book ends with an examination of food and agricultural issues that will have a profound and continuing impact on U.S. agricultural policy."

Data Resources, inc. The macroeconomic impact of Federal pollution control programs; 1978 assessment. [Washington] 1979. 51 p.

"Presents an analysis of the macroeconomic impacts of Federal air and water pollution control legislation on the United States economy. The analysis relies upon incremental abatement cost estimates provided by the Council on Environmental Quality (CEQ) for the period 1970-1986. Figures were provided for capital investment annualized capital costs, and operating and maintenance costs on an industry-by-industry basis, with additional data for state and local governments' costs and costs associated with the mobile source regulations. The figures reflect only 'incremental' costs, i.e., the extra costs which occurred solely as the result of Federal government legislation. As such, they do not reflect some pollution control outlays which would have been undertaken even in the absence of the legislation. The analyses were carried out using the Data Resources (DRI) macroeconomic model of the U.S. economy and covered the period 1970-1986."

Eckholm, Erik. Planting for the future: forestry for human needs. [Washington, Worldwatch Institute] 1979. 64 p. (Worldwatch paper 26)

Points to the need for forest management. The economic impact of deforestation is seen in the rising costs of construction and firewood. Reforestation projects in China and South Korea are reported.

Heady, Earl O. Economic and social conditions relating to agriculture and its structure to year 2000. Ames, Center for Agricultural and Rural Development, Iowa State University, 1980. 29 p. (CARD miscellaneous report)

Outlines general trends in agricultural structure in developed countries until the year 2000. Assesses world food supply and demand conditions and summarizes their implications for developed countries.

Mitre Corporation. National environmental impact projection no. 1. [Springfield, Va., Available from NTIS] 1979. 99 p.

"HCP/P-6119"

"In April 1978, the Energy Information Administration (EIA) submitted its first Annual Report to Congress. Included in this report were energy supply and demand projections to 1990.

The environmental and economic impacts expected to result under the EIA's energy projections have been assessed for the Office of Environment of the Department Energy. These impacts are presented in this document."

Priscoli, Jerry Delli. Future thinking: fad or necessity? *Water spectrum*, v. 11, spring 1979: 9-15.

Discusses the role of the engineer in the planning of water resources for the future. Includes discussion of the scientific, administrative and political aspects involved in this decision making process.

Ridker, Ronald G., and Elizabeth W. Cecelski. Resources, environment, and population: the nature of future limits. *Population bulletin*, v. 34, Aug. 1979: whole issue.

The authors examine "the balance between world supplies of resources and the demands presented by population and economic growth in the recent past, during the period to 2025, and for the long term."

Roger Blobaum & Associates. An assessment of the potential for applying urban wastes to agricultural lands. West Des Moines, Iowa, 1979. 181 p.

"Evaluates the potential and economic feasibility of recycling wastes from [the Omaha-Council Bluffs Standard Metropolitan Statistical Area] on outlying agricultural land through the year 2000. Procedures for evaluating and assessing alternative waste handling systems in similar urban/agricultural areas are outlined emphasizing consideration of land application technologies."

Simon, Julian L. Global confusion, 1980: a hard look at the Global 2000 report. *Public interest*, no. 62, winter 1981: 3-20.

Strongly disagrees with the conclusions of the Council on Environmental Quality's "Global 2000 Report to the President."

---- World food supplies. *Atlantic monthly*, v. 248, July 1981: 72-76.

Challenges the prediction that food production cannot keep up with population growth.

Steele, Robert V., and others. Leading trends in environmental regulation that affect energy development; final report. [Washington] U.S. Dept. of Energy, Division of Environmental Impacts [available from NTIS] 1980. 318 p.

"DOE/EV-01682"

"The work reported here was carried out for the Department of Energy to identify and assess major environmental issues that are likely to affect the implementation of energy technologies between now and the year 2000. The energy technologies specifically addressed are: oil recovery and processing; gas recovery and processing; coal liquefaction; coal gasification (surface); in situ coal gasification; direct coal combustion; advanced power systems; magnetohydrodynamics; surface oil shale retorting; true and modified in situ oil shale retorting; geothermal energy; biomass energy conversion and nuclear power (fission)."

Sweet, William. Closing the environmental decade. [Washington] Editorial Research Reports, 1979. 823-840 p. (Editorial research reports, 1979, v. 2, no. 18)

Discusses the origins of environmentalism in the U.S., assesses the laws and activities devoted to pollution control and environmental protection in the seventies and analyzes changes in the environmental movement, which is evolving with diverse aims.

Tyner, Wallace E., and Carroll J. Bottum. Food vs. fuel: the gasohol dilemma. [West Lafayette, Ind.] Dept. of Agricultural Economics, Purdue University, 1980. 43 p.

The authors assess whether there is excess agricultural production capacity which could be used to produce crops for fuel without sacrificing food output. "There is no question regarding our ability to provide adequate food and feed for domestic uses and still have ample supplies remaining for energy use. The question is the extent to which we can satisfy both our domestic food/feed demands and the export food/feed demands plus a large energy from agriculture program."

U.S. Central Intelligence Agency. National Foreign Assessment Center. USSR: long-term outlook for grain imports; a research paper. Washington [Available from NTIS] 1979. 21 p.

"ER 79-10057, Jan. 1979"

"Assesses likely future Soviet demand for Western grain through 1985 and the US role in meeting this demand. The analysis focuses on long-term trends in Soviet grain production and utilization."

U.S. Congress. Office of Technology Assessment. Pest management strategies in crop protection. Washington [For sale by the Supt. of Docs., U.S. Govt. Print. Off.] 1979. 2 v.

Assesses "crop protection problems, current and emerging control technologies, and projected future developments over the next 15 years for each of seven regional cropping systems in the United States, evaluate[s] Federal constraints to improved pest management in the United States, and review[s] the problems, potentials, and impacts of the transfer of North American crop protection technology to the developing world."

U.S. Congressional Budget Office. Forest Service timber sales: their effect on wood product prices. Washington, For sale by the Supt. of Docs., U.S. Govt. Print. Off. [1980] 64 p.

Evaluates the effects of several alternative levels of timber sales from the national forests in the 1980s. Compares the effects of increased sales on prices of wood products, on the sustainability of the increases, and on the economic health of the affected regions.

U.S. Council on Environmental Quality. The global 2000 report to the President: entering the twenty-first century. [Washington, For sale by the Supt. of Docs., U.S. Govt. Print. Off.] 1980. 3 v.

The report concludes that if present trends continue, the world in 2000 will be more crowded, more polluted, less stable ecologically, and more vulnerable to disruption than the world we live in now. It presents forecasts on population, income,

food, fisheries, forests, water, energy, nonfuel minerals, and the environment.

- U.S. Dept. of Agriculture. Future challenges in renewable natural resources; proceedings of a national workshop, January 22-25, 1979, Rosslyn, Virginia. Washington, For sale by the Supt. of Docs., U.S. Govt. Print. Off., 1979. 116 p.

This "workshop was designed to bring together key people from futures research and renewable natural resources in a setting where they could systematically consider the future. The objectives were to: identify probable global, national, and regional trends and developments over the next 6 to 50 years, assess the nature and magnitude of their impacts, and suggest strategies, policies, roles, programs, and organizational and research priorities for the U.S. Department of Agriculture."

- U.S. Forest Service. An assessment of the forest and range land situation in the United States. [Washington] 1980. 631 p.

Measures the future economic and environmental impact of present trends in the use and management of forests, rangeland and water resources. Presents statistical data on wildlife, forest products, and outdoor recreational use of forests and rangeland.

- U.S. General Accounting Office. Water supply should not be an obstacle to meeting energy development goals; report to the Congress by the Comptroller General of the United States. [Washington] 1980. 79 p.

"CED-80-30, Jan. 24, 1980."

"Disputes the common impression that the energy industry's thirst for water will create severe shortages throughout the water-short, energy-rich West. Recent evidence indicates that these predictions are unfounded or outdated and that adequate water is available for energy development through at least the year 2000."

- U.S. Library of Congress. Congressional Research Service. Renewable natural resources: some emerging issues. Prepared for the Committee on Agriculture, Nutrition, and Forestry, United States Senate. Washington, U.S. Govt. Print. Off., 1979. 96 p.

At head of title: 96th Cong., 1st sess. Committee print.

- Valaskakis, Kimon. The conserver society: emerging paradigm of the 1980s? *Futurist*, v. 15, Apr. 1981: 5-11, 13.

Foresees the emergence of a "Conserver Society" with an orientation towards conservation and non-wasteful resource use.

- Viessman, Warren, and Christine DeMoncada. State and national water use trends to the year 2000. A report prepared by the Congressional Research Service of the Library of Congress for the Committee on Environment and Public Works, U.S. Senate. Washington, U.S. Govt. Print. Off., 1980. 297 p.

At head of title: 96th Cong., 2d sess. Committee print.

"Serial no. 96-12"

The authors survey factors influencing water use trends to the year 2000. These factors include economic conditions, environmental regulations, energy resources development, conser-

vation, population, weather modification, inter-basin transfers, wastewater reuse and recycling, saline water conversion and technological change. "This study was designed to indicate the directions the States assume will develop regarding the use of their water resources during the next 20 years. Comparisons of State projections with national trends are given along with an assessment of critical water problems and factors likely to influence and/or modify present forecasts."

F. ECONOMICS AND LABOR

Amara, Roy. The future of management: ten shapers of management in the 80's. Menlo Park, Calif., Institute for the Future, 1980. 17 l.

Explores "how management—what a manager does and how a manager operates—is likely to be influenced by economic, social and technological changes."

American Council of Life Insurance. The changing nature of work. [Washington, 1979] 26 p. (Its Trend analysis program, TAP 17)

Foresees a technological impact on the workplace that will make management styles based on physical proximity to workers obsolete. The desire for more personally satisfying work and more leisure will influence management styles.

Bibliography: p. 22-26.

Barrett, Nancy S. Labor force data needs for macroeconomic planning and projections. Washington, National Commission on Employment and Unemployment Statistics [for sale by the Supt. of Docs, U.S. Govt. Print. Off., 1979] 86 p. (U.S. National Commission on Employment and Unemployment Statistics. Background paper no. 25)

Partial contents.—Estimates of the potential labor force.—The benchmark unemployment rate.—Translation from employment to potential output. —Unemployment and labor market tightness.

Brown, James K. This business of issues: coping with the company's environments. [New York] Conference Board [1979] 74 p. (The Conference Board. Report no. 758)

Examines methods corporations use to monitor broad social, economic, political, and technological environments. Based in part on interviews with 100 corporate planners, public affairs personnel and others.

Coppa & Avery Consultants. Federal regulations and the administration of mass media communication. Monticello, Ill., Vance Bibliographies, 1980. 11 p. (Public administration series: bibliography P-621)

"Subtopics covered are the media and violence, media regulation, the media and the first amendment, media advertising, media advertising and children, cable television and the press."

Cornish, Edward. The Great Depression of the 1980s. Futurist, v. 14, June 1980: 29-32, 34.

Develops scenarios of some of the events which might happen at the beginning of another Great Depression. The author contends that we won't know we are in a depression for months and perhaps even years after it has begun; hundreds of thousands of businesses will fail; debtors will default on a massive scale; the unemployment rate could exceed the 25% reached in 1932; the depression will be worldwide; government transfer programs (welfare, unemployment, social security) may find themselves without adequate funds to satisfy claimants because tax revenues will decline with the economy; and the consequences of the depression in the 1980s may be more serious than in the 1930s due to the high level of economic specialization, integration, and interdependence, and the corresponding weakening of the family.

Curtin, Donal, and others. 1980: a world banking essay. Euro-money. May 1981: 10-11, 13, 26, 29.

"Based on interviews with bankers, economists, computer technologists, and political and military strategists, [this report] attempt[s] to predict what the international banker's environment will be at the end of the decade."

Dunn, Robert M., Jr. Economic growth among industrialized countries: why the United States lags. [Washington] NPA Committee on Changing International Realities [1980] 67 p. (National Planning Association. NPA report no. 179)

Analyzes the performance of the U.S. economy during recent years with particular emphasis on factors which affect its capacity to produce. Compares the U.S. economy with those of other major OECD countries. Finds that inadequate levels of savings and investment are among the major impediments to U.S. growth, and recommends changes in U.S. tax and regulatory policies to increase savings and investment and a stabilization of regulatory policies and the establishment of long-term energy policies to reduce investment uncertainty.

Edison Electric Institute. Oversight Committee for Economic Growth in the Future--II. Economic growth in the future--II; executive summary. Washington [1980] 26 p.

This follow-on to a 1973 study uses five scenarios to project economic growth to the year 2020. It presents twelve policy recommendations to enhance economic growth, including reduction in personal and corporate income taxes, tax incentives for private research and development, reduction of oil imports, and emphasis on the positive aspects of nuclear power.

Enzer, Selwyn. Exploring changes in the business climate-1980-2000. Los Angeles, Center for Futures Research, University of Southern California, 1980. 20 l.

"Presented at the Chemical Marketing Research Association meeting on Defusing Future Shock--A Forum on Techniques and Planning for the 80's, September 21-24, 1980, at the Doral Country Club and Hotel, Miami, Florida."

Describes INTERAX, a scenario generating process that combines "human analysts, stakeholders, and decisionmakers with a data base of possible future changes." INTERAX is relevant

to corporate strategic issues and was developed with support from twelve large U.S. corporations.

Giacalone, Joseph A. Article bibliography on managerial forecasting. Monticello, Ill., Vance Bibliographies, 1979. 22 p. (Public administration series: bibliography P-183)

International Conference on Input-Output Techniques, 7th, Innsbruck, Austria, 1979. Changes in the structure of the world economy; proceedings. [n.p.] 1979. 1 v. (various pagings)

This conference was jointly sponsored by the United Nations Industrial Development Organization and the Government of Austria and chaired by Prof. W. Leontief. Daily sessions included "Global and Multinational Models," "Patterns of Economic Growth in Developing Countries," "Income Distribution and Social Welfare," and "Europe in 1985 and After."

Kahn, Herman, and Irving Leveson. Controlling inflation: toward an agenda for sustained action. Croton-on-Hudson, N.Y., Hudson Institute, 1980. 1 v. (various pagings) (Hudson perspective series, HPS paper no. 2)

The authors call for strong anti-inflationary policies in an attempt to keep the inflation rate below 7 percent. Their program would include restraint on the rate of growth of the money supply, avoidance of inflationary stimulants such as tax cuts and increased government spending, reform of indexing and passage of anti-inflationary legislation.

Martino, Joseph P., and others. Tests of some indices of technological change as leading indicators of market shift. Dayton, Ohio, University of Dayton, Research Institute, 1980. 1 v. (various pagings)

"UOR-TR-80-35"

The study examines "three indices of technological change: numbers of foreign-held U.S. patents, numbers of papers published in technical and trade journals, and research and development (R&D) expenditures. Each index was applied to specific commodities, to determine its effectiveness as a leading indicator of market shifts."

Mascotte, John P. The life insurance industry. Kansas City, Mo., Midwest Research Institute [1979?] 31 p.

Address and question and answer session examine trends in the industry and prospects for the year 2001.

McNamara, Robert S. Address to the Board of Governors. [Washington, World Bank, 1979] 44 p.

Address given in Belgrade, Yugoslavia, Oct. 2, 1979.

Contents.—Lessons of the Second Development Decade.—Critical development problems in the 1980s and beyond.—Approaches to a new international development strategy.—The World Bank in the 1980s.

Moore, Dan T., Jr. Will robots save democracy? *Futurist*, v. 15, Aug. 1981: 14-19.

Contends that robots will create many times over the products lost by the decline in productivity of American workers.

With interest rates lowered and prices stabilized, inflation, "the biggest single threat to democracy, ... will slowly vanish."

Naisbitt, John. *The bottom-up society: American between eras.* Public opinion, v. 4, Apr.-May 1981: 18-19, 54-56.

Outlines social and economic trends noted by Trend Report, a division of Yankelovich, Skelly and White, which has tracked the contents of 206 newspapers since 1970. States that "we are in the process of restructuring our economy from a national one to part of a global one. The United States is rapidly shifting from an industrial society to an information society. For the first time in the nation's history there is more decentralization than centralization taking place in America."

Newland, Kathleen. *Global employment and economic justice: the policy challenge.* [Washington, Worldwatch Institute] 1979. 47 p. (Worldwatch paper 28)

Contents.--Needed: one billion jobs.--Measuring employment.--Jobs and joblessness in rich countries.--The employment problem in poor countries. --Policies and prospects.

Reebie Associates. *The railroad situation: a perspective on the present, past and future of the railroad industry.* Washington, U.S. Federal Railroad Administration [for sale by the Supt. of Docs., U.S. Govt. Print. Off.] 1979. 487 p. (U.S. Federal Railroad Administration. Report no. FRA-OPP-D79-7)

Examines the economics of the U.S. railroads, elements in the decline of the industry since 1929, and the railroads' prospects to 1985.

Roberts, Benjamin C., Hideaki Okamoto, and George C. Lodge. *Collective bargaining and employee participation in Western Europe, North America and Japan.* [New York Trilateral Commission, 1979] 90 p. (Triangle papers, 18)

The authors comment in their summary that developments in the direction of employee participation raise issues concerning "the long-term role of the unions; the efficiency of management; the welfare of the individual employee; and the welfare of the wider society. While increased employee participation brings many benefits we must also recognize great doubts among important sections of opinion everywhere as to the wisdom of these developments."

Sheppard, Charles Stewart, and Donald C. Carroll. *Working in the twenty-first century.* New York, Wiley, 1979. 235 p.

"A Wiley-Interscience publication."

The authors assess the impact of emerging technologies and limited natural resources on work. Also, they examine the changing needs and expectations of workers and future labor-management relations.

Sivia, Timothy B. *Regional growth in the 1980s.* Washington, National Planning Association, 1979. 3 v. (Regional economic projections series, report no. 79-R-1-79-R-3)

Contents.--Vol. I. Summary; population, employment and personal income for: regions, states, economic areas, SMSAs, counties.--Vol. II. Population, employment, and income detail

for: regions, states, economic areas, SMSAs.—Vol. III. Population by age, sex and race for: regions, states, economic areas, SMSAs.

Spengler, Marie. Business uses of values and lifestyles [by] Marie Spengler and Lynn Rosener. Menlo Park, Calif., SRI International, 1979. 75 p. (VALS report no. 6)

"The purpose of this report is to provide an overview of the state of the art of applying values and lifestyles information in business decision making and planning."

— Hard times [by] Marie Spengler and Peter J. Teige. Menlo Park, Calif., SRI International, 1980. 104 p. (VALS report no. 16)

This work presents an economic "hard times" scenario for 1980-1985 and probable ways in which business and society can react to the challenges.

Terleckyj, Nestor E., and David M. Levy. U.S. economic growth: 1979-1990. Washington, Center for Socio-Economic Analysis [1979-1980] 2 v. (National economic projections series, report no. 79-N-1-79-N-2 & 3)

Present economic projections for the U.S. to 1990. The authors foresee a 3.2 percent annual growth in real GNP based on a shift of productive resources from government to the private sector, increases in labor input and in capital stock, and a 2.2 percent rate of growth in private business sector productivity. The second volume reflects projection revisions due to political and economic conditions, especially the increasing cost of energy.

U.S. Advisory Committee on National Growth Policy Processes. Forging America's future: strategies for national growth & development; report to the National Commission on Supplies and Shortages. Washington, For sale by the Supt. of Docs., U.S. Govt. Print. Off., 1977. 94 p.

Develops recommendations with respect to "the establishment of a policymaking process and structure within the Executive and Legislative Branches of the Federal Government as a means to integrate the study of supplies and shortages of resources and commodities into the total program of balanced national growth and development, as a system for coordinating these efforts with appropriate multistate, regional and state governmental jurisdictions."

U.S. Congress. House. Committee on Small Business. Subcommittee on Antitrust, Consumers and Employment. Future of small business in America. Washington, U.S. Govt. Print. Off., 1979. 62 p.

At head of title: 96th Cong., 1st sess. Committee print.

U.S. Congress. Joint Economic Committee. Subcommittee on Energy. Employment impact of the solar transition; a study. Washington, U.S. Govt. Print. Off., 1979. 49 p.

At head of title: 96th Cong., 1st sess. Joint committee print.

U.S. Congress. Office of Technology Assessment. Changes in the future use and characteristics of the automobile transportation system. Washington [For sale by the Supt. of Docs., U.S. Govt. Print. Off., 1979] 2 v.

Vol. I contains a summary and findings; vol. II is the technical report. "This assessment deals with changes in the future use and characteristics of the automobile transportation system that are expected in the near term (by 1985) and those that might evolve over a longer period (through 2000 and beyond). The scope of the assessment is broad and includes not only automobiles but also highways, fuel supply and distribution, automotive repair and service, insurance, traffic management, and law enforcement in short, all of the industries and services that contribute to use of the automobile as a mode of personal transportation."

U.S. Dept. of Transportation. *Transportation and the future*. [Washington] 1979. 65 p.

Contents.--The transportation environment.--Urban public transportation.--Small city and rural transportation.--The private automobile.--Intercity passenger transportation.--Cargo transportation.--Space transportation.--Bibliography. "An introductory overview of currently emerging and future technological developments in transportation."

U.S. National Transportation Policy Study Commission. *National transportation policies through the year 2000*. [Washington, For sale by the Supt. of Docs., U.S. Govt. Print. Off., 1979] 2 v.

Vol. 1 is the executive summary; vol. 2 is the final report.

Contents of vol. 2, Transportation functions, institutions, and activity in the U.S.--Federal transportation policies and programs.--State and local transportation policies and programs.--General social and economic forecasts to the year 2000.--Comparative transportation policies in other countries.--Technological trends in transportation and communication.--Transportation and externalities.--Transportation and energy.--Forecasts of future transportation activity.--Capital requirements for the transportation forecasts.--The relative price of transportation to the year 2000.--Emerging transportation issues.--Policy recommendations.--Impacts of the policy recommendations.--Staging policy changes.

Vargish, Thomas. *Why the person sitting next to you hates limits to growth*. *Technological forecasting and social change*, v. 16, Mar. 1980: 179-189.

Widespread resistance to the notion of limits to growth is seen as a fear within Western society. Individuals do not want to recognize that their decisions will shape the future. The author claims that taking final responsibility for the future puts man into "existential terror."

Weidenbaum, Murray L. *The future of business: shock or stability?* St. Louis, Center for the Study of American Business, Washington University [1980] 10 p. (Center for the Study of American Business. Publication no. 30)

"The American business firm, besieged by government regulators and private pressure groups, may indeed be tired and troubled. But when its contributions to material welfare and personal freedom are fully assessed, it surely deserves--and is likely to obtain--another chance from critics and supporters

alike. The overriding theme of this essay is that reversal of the current trend of everincreasing government intervention in business is essential not so much from the viewpoint of business, but primarily from the viewpoint of enhancing the welfare of the individual citizen."

Wheeler, Jimmy W. The world economy and the U.S. economy. Croton-on-Hudson, N.Y., Hudson Institute, 1980. 43 p.

At head of title: Corporate environment program, issues for the 1980s.

"HI-3148-P"

Foresees slightly improved economic growth rates during the 1980's compared to the 1970's. Some firms must face competition in stagnant or slow growth markets. Interdependence among Western economies will mean that U.S. firms must become more internationally oriented.

G. SCIENCE AND TECHNOLOGY

Carlson, Patricia, and John Krobock, editors. Avionics: projections for civil aviation 1995-2000. [Washington] National Aeronautics and Space Administration, 1979. 201 p.

"This report provides the results of the 1979 NASA/ASEE Engineering Systems Design Group. It summarizes a view of the 1995-2000 civil aviation avionics system. Following discussion of the Group's and avionics system's objectives, it describes the scenarios considered, the avionics technologies, the 1995-2000 avionics system, and the evaluation of impacts. The last chapter provides conclusions and recommendations."

Carnegie Commission on the Future of Public Broadcasting. A public trust. New York, Bantam Books [1979] 401 p.

Partial contents. -The rise of public broadcasting.-Reorganizing public broadcasting.-Funding.-Television programs and services.-Public radio.-Public broadcasting in the new telecommunication environment.-Telecommunications and learning.-Public accountability.-The social dividend of the electronic media.-Bibliography.-Chronology of public broadcasting. -Costs.-The educational broadcasting facilities program.-Memorandum of law.-Public television and radio stations.

Coates, Joseph F., and Henry Hitchcock. A research agenda on the roles and impacts of appropriate technology on society, the economy, and technology development. Washington, 1980. 130 l.

The authors present "a five-year research plan for the National Science Foundation dealing with the socio-economic and technological implications of appropriate technology." Topics addressed in the work are: social and economic implications of appropriate technology, the role of appropriate technology in technical innovation, and manpower and training issues of appropriate technology.

Djerassi, Carl. Birth control in the year 2001. Bulletin of the atomic scientists, v. 37, Mar. 1981: 24-28.

Describes what birth control should be like globally and in the United States in the year 2001, what it could be, and what it will be.

The Five-year outlook: problems, opportunities and constraints in science and technology. [Washington] U.S. National Science Foundation [for sale by the Supt. of Docs., U.S. Govt. Print. Off., 1980] 2 v.

"NSF 80-29 and 80-30"

Volume one synthesizes under eight headings the salient topics regarding near-term trends found in the source material of volume two. The topical headings are: "energy, materials, transportation, space, agriculture, health, the electronic revolution, [and] the perception and management of hazards and risks." The second volume was prepared by the National Academy of Sciences, selected governmental agencies, and individual specialists.

Gordon, Theodore J. The year 2050: reflections of a futurist. *Lamp*, v. 63, spring 1981: 26-33.

Probable biomedical and technological innovations are considered in the hope of projecting what life will be like in the year 2050.

Haefele, W., A. M. Khan, and A. Hoelzl. Development of technologies designed to increase energy efficiency. Vienna, Vienna Institute for Comparative Economic Studies, 1979. 56 l.

Discuss "the nature of energy demand, the potential of technological developments for improving the efficiency of energy use and the possible impact of conservation measures in different regions of the world."

Hahn, Walter, and Timothy C. Biggs. Technological change and the public work force. [Washington, U.S. Library of Congress, Congressional Research Service] 1980. 52 p.

The authors describe hard and soft technologies and their probable impacts on society, the economy, the environment and politics. The technologies examined include communications (the intersection of computers and communications), the office of the future, biotechnology, medical technology and information science. Some implications of these technologies for public management are suggested.

Hetland, James L., Jr. Redesigning the system for the '80s: the citizen organizations' role. *National civic review*, v. 70, Apr. 1981: 192-198.

Former chairman of the Citizens League, a volunteer citizens group in the Minneapolis-St. Paul area, speaks on his organization's call for new ways to meet public service needs in the Eighties. "The emerging public-private partnership essentially must provide a method for citizens to have an effective voice in setting standards and implementing the doing side of policy decisions through alternatives, options, exceptions, flexibility and adaptable programs."

Louis Harris and Associates. The dimensions of privacy. [Stevens Point, Wis., Sentry Insurance, 1979] 104 p.

This study, which was conducted for Sentry Insurance, finds that "sixty-three percent of the American public believes the use of computers should be 'sharply restricted' in the future if personal privacy is to be preserved and a majority of Americans believe that corporations—even more than such major government institutions as the FBI and CIA—are mishandling the personal information they collect on individuals. Moreover, Americans were found to have grown substantially more concerned about the erosion of personal privacy in recent years. The survey, 'The Dimensions of Privacy,' is based on over 1,500 interviews with a national cross-section of the adult American population and more than 600 interviews with so-called 'leadership groups,' including the Congress, business executives, [and] Federal regulatory officials among others."

Martino, Joseph P. Technological and social changes which may affect the cable television (CATV) industry. Dayton, Ohio, University of Dayton, Research Institute, 1980. 1 v. (various pagings)

Studies possible impacts on cable television due to: "changes in CATV technology; changes in technologies which may compete with CATV; services which CATV systems may be able to provide to subscribers in addition to the present distribution of television programs; and changes in government regulations which affect CATV."

Norman, Colin. Microelectronics at work: productivity and jobs in the world economy. [Washington, Worldwatch Institute] 1980. 63 p. (Worldwatch paper 39)

Claims that "microelectronic technology will have a pervasive and long-lasting influence on international trade, patterns of employment, communications, industrial productivity, entertainment, and social relationships."

Nuclear Science Advisory Committee. Long range plan for nuclear science. [Cambridge, Mass.?] 1979. 140 p.

Presents, at the request of NSF and DOE, a long range national plan for nuclear science based primarily upon scientific opportunities in the field.

Schneider, Ernest, ed. New information and communications technology. Croton-on-Hudson, N.Y., Hudson Institute, 1980. 64 p.

"HI-3149-P"

Contents.—Impact of new information technologies and systems, by H. Kahn.—Response to Herman Kahn's remarks, by M. Uenohara.—Waves of change, by C. Lecht.—Technologies shaping the eighties, by J. Cassidy.—Advanced corporate corporate information systems, by H. Johnson.—Time sharing, by I. Sharp.—Social impact of information processing in the 1980s, by D. Lundell.

U.S. Bureau of Labor Statistics. Technological change and its labor impact in five energy industries. Washington, For sale by the Supt. of Docs., U.S. Govt. Print. Off., 1979. 64 p. (Its Bulletin 2005)

"Appraises some of the major technological changes emerging among selected American industries and discusses the impact of these changes on productivity and occupations over

the next 5 to 10 years." Contains separate reports for coal mining, oil and gas extraction, petroleum refining, petroleum pipeline transportation and electric and gas utilities.

U.S. Congress. House. Committee on Science and Technology. Subcommittee on Energy Development and Applications. Oversight: appropriate technology. Joint hearings before the Subcommittee on Energy Development and Applications of the Committee on Science and Technology, U.S. House of Representatives, and the Subcommittee on Energy Conservation and Supply of the Committee on Energy and Natural Resources, U.S. Senate, 96th Congress, first session. Vol 1. Apr. 30, 1979. Washington, U.S. Govt. Print. Off., 1979. 231 p.

"No. 20."

U.S. Congress. House. Committee on Science and Technology. Subcommittee on Transportation, Aviation and Communications. Future Federal role in automotive research development. Hearings, 96th Cong., 1st sess. Washington, U.S. Govt. Print. Off., 1979. 383 p.

"No. 52"

Hearings held May 2-15, 1979.

U.S. Congress. Office of Technology Assessment. Changes in the future use and characteristics of the automobile transportation system. Washington [For sale by the Supt. of Docs., U.S. Govt. Print. Off., 1979] 3 v.

"This assessment deals with changes in the future use and characteristics of the automobile transportation system that are expected in the near term (by 1985) and those that might evolve over a longer period (through 2000 and beyond). The scope of the assessment is broad and includes not only automobiles but also highways, fuel supply and distribution, automotive repair and service, insurance, traffic management, and law enforcement—in short, all of the industries and services that contribute to use of the automobile as a mode of personal transportation."

Vol. I contains a summary and findings; vol. II is the technical report; vol. III presents findings of a public participation program for automobile assessment.

---- Forecasts of physician supply and requirements. Washington [For sale by the Supt. of Docs., U.S. Govt. Print. Off.] 1980. 86 p.

"OTA-H-113"

"Report evaluates the assumptions, methods, and results of the two current models used to forecast the number and kinds of physicians the country is likely to need and have."

U.S. Congressional Budget Office. Five-year budget projections and alternative budgetary strategies for fiscal years 1980-1984. Washington, For sale by the Supt. of Docs., U.S. Govt. Print. Off. [1979] 91 p.

"A report to the Senate and House Committees on the Budget--Part II, as required by Public Law 93-344."

There is also a CBO staff working paper, released in 1979, with the same title plus the phrase "technical background."

H. GOVERNMENT, LAW AND SOCIETY

American Council of Life Insurance. Power and decisions: institutions in an information era. [Washington, 1979] 28 p. (Its Trend analysis program, TAP 18)

Changes in communication and the change in attitude toward authority are seen as reshaping institutional decision making.

American Enterprise Institute for Public Policy Research. Limiting Presidential and congressional terms. Washington, 1979. 33 p. (Its Legislative analyses)

"This legislative analysis canvasses reasons for the establishment of the present terms of office and also explores arguments for limiting tenure at this juncture in history."

Beer, Samuel H. A new nationalism. New republic, v. 180, Jan. 27, 1979: 16-18.

"In recent years American politics has been distracted by a new and destructive pluralism. This new pluralism disorganizes public policy and sets group against group. Its paralyzing and disorienting effects challenge citizens, leaders and above all the president to elicit and affirm a new nationalism that will again put us in mind of what makes us a people and again give direction to our public affairs."

Bezold, Clement. Home computers and telecommunications in the future environments of children. Washington, Institute for Alternative Futures, 1980. 53 l.

Explores the impact of the "intelligent environment" personal computers and expanded telecommunications on child development. Also, examines "work-at-home" and systems that monitor the home as well as the child.

Carnegie Commission on the Future of Public Broadcasting. A public trust. New York, Bantam Books [1979] 401 p.

Partial contents.--The rise of public broadcasting.--Reorganizing public broadcasting.--Funding.--Television programs and services.--Public radio.--Public broadcasting in the new telecommunication environment.--Telecommunications and learning.--Public accountability.--The social dividend of the electronic media.--Bibliography.--Chronology of public broadcasting. -- Costs.--The educational broadcasting facilities program.--Memorandum of law.--Public television and radio stations.

Combs, Arthur W. What the future demands of education. Phi Delta Kappan, v. 62, Jan. 1981: 369-372.

Selects four "certainties" which will affect the future and looks at their implications for education. The four are: the information explosion, the increasing pace of change, the primacy of social problems, and the increasing importance of personal fulfillment.

Coombes, David. The future of the European Parliament. [London, Policy Studies Institute, 1979] 136 p. (Studies in European politics, 1)

Contents.--The significance of the European Parliament.--The European Parliament today: present role and future pros-

pects.--The future of the European Community: the need for political institutions.--The contemporary role of parliaments in Western Europe.--Towards a new model parliament.

Couric, Emily. Law office of today and tomorrow. Legal times of Washington, v. 4, Dec. 14, 1981: whole issue.

This report examines how technological changes, changes in law office management, use of committees to manage firms, and changes in billing procedures will change law firms of the future.

Daly, John Charles, ed. A constitutional convention: how well would it work? Washington, American Enterprise Institute for Public Policy Research, 1979. 41 p.

Edited "transcript of an AEI Public Policy Forum, brings together four distinguished scholars to discuss the prospects for the first federal constitutional convention in this country since the constitution was drafted in 1787. Article V of the Constitution provides for amendments to be proposed either by Congress or by a convention, but thus far this convention procedure has never been used. Such a convention is now a possibility--a wave of petitions from state legislatures have called for one to consider a balanced budget amendment. This prospect raises numerous questions: How valid are the petitions from the state legislatures? Could a convention be limited to the consideration of a balanced budget amendment, or would it be broader or even unlimited in scope? What is the power of the states in making that decision? Can Congress establish the procedures for the convention? What role should the courts play?"

Dede, Christopher, and Dwight Allen. Education in the 21st century: scenarios as a tool for strategic planning. Phi Delta Kappan, v. 62, Jan. 1981: 362-366.

Describes a major research project co-sponsored by the Education Section of the World Future Society and Old Dominion University, Norfolk, Va. The project involves the use of scenarios for strategic planning, and through their use a picture of education in the 21st century is emerging.

Ferkiss, Victor. The future of North America. Futurist, v. 14, Aug. 1980: 17-19, 21-24.

Examines factors leading toward greater cultural, economic, and political integration of North America.

Financing social security. Washington, American Enterprise Institute for Public Policy Research [1979] 352 p. (AEI symposia, 78H)

Papers presented at a conference held in Washington, D.C., on Oct. 27-28, 1977.

Partial contents.--Indexing social security: what to do?--Indexing social security: some important consequences.--The future financing of the social security system.--Interaction of social security and private pensions.--The future of the social security system.

Fitch, Robert M., and Cordell M. Svengalis. Futures unlimited: teaching about worlds to come. [Washington] National Council

for the Social Studies [1979] 83 p. (National Council for the Social Studies. Bulletin 59)

Partial contents.--Curriculum approaches to teaching about the future.--Innovative methods for teaching about the future.--Inquiry into values and futures education.--Images of the future through science fiction. --Evaluating the outcomes of futures education.--Resources for teaching about the future.

Gill, Kathleen D. Lowering the baby boom: a look at retirement trends 1979-2029. [Washington] Bureau of National Affairs [1979] 7 p.

Examines the problems and questions concerning pension plans that must be faced in the next thirty years.

Goldwin, Robert A., ed. Political parties in the Eighties. Washington, American Enterprise Institute for Public Policy Research [c1980] 152 p.

Contents.--Party reform: revisionism revised, by K. Bode and C. Casey. --Party "reform" in retrospect, by E. Banfield.--The undemocratic party system: citizenship in an elite/mass society, by B. Barber.--The news media as an alternative to party in the Presidential selection process, by N. Polsby.--On the three parties in America, by R. Licht.--Political change and party reform, by J. Ceaser--Democratizing the Democratic Party, by D. Fraser.

Gross, Bertram Myron. Friendly fascism: the new face of power in America. New York, M. Evans, c1980. 410 p.

"The possibility exists for a more genuine democracy in American than has ever existed. The more probable future, though, is a new despotism of faceless oligarchs who, in the name of Americanism, betray the interest of most Americans by fomenting militarism, protecting undeserved privilege, and stirring up nationalistic and ethnic hatreds. A Nazi Germany type of fascism is quite unlikely. Any modern version would be supermodern and multi-ethnic--as American as Madison Avenue, executive luncheons, credit cards, and apple pie. As a warning against its cosmetic facade and subtle manipulation, Gross calls it "friendly fascism." He emphasizes that this is not a prophecy of what will happen, but a warning against what could happen. We should seriously question those who proclaim that a new despotism can't happen here."

Grossman, David A. The future of New York City's capital plant: a case study of trends and prospects affecting the city's public infrastructure. Washington, Urban Institute [1979] 112 p.

"America's urban capital stock, volume one"

Reviews trends in spending for the city's capital plant over the last 15 years and examines the physical condition of four key systems--water supply and distribution, storm and sanitary sewers, streets and highways, and mass transportation--concluding that "although New York City is not 'falling down,' its infrastructure is deteriorating and needs a significantly increased rate of investment in maintenance and replacement if serious problems are to be avoided in coming decades."

Hetland, James L., Jr. Redesigning the system for the '80s: the citizens organizations' role. *National civic review*, v. 70, Apr. 1981: 192-198.

Former chairman of the Citizens League, a volunteer citizens group in the Minneapolis-St. Paul area, speaks on his organization's call for new ways to meet public service needs in the Eighties. "The emerging public-private partnership essentially must provide a method for citizens to have an effective voice in setting standards and implementing the doing side of policy decisions through alternatives, options, exceptions, flexibility and adaptable programs."

Hoyle, John R. Urban education 1999: alternative futures. *Education and urban society*, v. 13, May 1981: 357-380.

Provides two scenarios of urban schools at the turn of the century—one focusing on why urban schools have failed and one describing alternatives that might have been developed.

Institute for the Future. Policy choices in vocational education. Menlo Park, Calif., 1979. 68 l.

Identifies population and economic factors that will impact upon vocational education over the next fifteen years. Foresees a decline in the growth of the labor force and a lack of skilled workers. Predicts that affluence from economic growth will make more money available for special education and that businesses will spend more for educating and retraining employees.

International City Management Association. Committee on Future Horizons. The essential community: local government in the year 2000. [Washington] 1979. 1 v. (various pagings)

Draft report surveys economic, demographic, political, urban and technological change over the next twenty years and posits how these changes will impact upon local government.

Kahn, Herman, and Ernest Schneider. Current morale and the growing pains of the Great Transition. Croton-on-Hudson, N.Y., Hudson Institute, 1980. 22 p. (Hudson perspective series, HPS paper no. 5)

Study presents the Great Transition, "a scenario for the future which foresees a world which has been transformed along these lines: two centuries ago, human beings were comparatively few, poor, and at the mercy of the forces of nature; about two centuries hence, barring some overwhelming combination of bad luck and bad management (an essential caveat), they should be numerous, rich, and in control of the forces of nature."

— Social limits to growth: "creeping stagnation" vs. "natural and inevitable." Croton-on-Hudson, N.Y., Hudson Institute, 1980. 24 p. (Hudson perspective series, HPS paper no. 4)

The authors contend that "future economic growth is likely to be slowed by social rather than physical limits, notably in the more developed affluent nations. Such a deceleration would do the most harm to the poor nations and to poor people everywhere." Among elites in affluent nations the ideology of progress has recently fallen into disrepute. Current limits to

growth in the U.S. are seen in a series of "new emphases" which include: "risk avoidance, localism, environmentalism, safety regulations, hedonism, public welfare, and other attitudes which tend to denigrate economic development."

Kane, Robert, and others. *Geriatrics in the United States: manpower projections and training considerations*. Santa Monica, Calif., Rand, 1980. 135 p. (Rand report, R-2543-HJK)

Demographic projections indicate that the elderly segment of the U.S. population will grow substantially over the next 50 years, posing additional requirements for medical geriatrics manpower. This report provides quantitative boundary estimates of these requirements under four models: continuation of the status quo; academic geriatricians only; academic and consultant geriatricians; and academic, consultant, and primary care geriatricians. Each option is further analyzed in terms of three levels of delegation to nonphysician caregivers. The authors estimate that between 7000 and 10,300 geriatricians will be required by 1990, the best intermediate figure being 8000.

Little, Dennis L. *Changing profiles of America. Electric perspectives*, summer 1981: 1-10.

"The United States remains the world's fourth most populous nation, but the 1980 census indicates its population has undergone changes portending profound effects on how Americans will live and how societal institutions, such as electric utilities, will serve them."

Louis Harris and Associates. *The dimensions of privacy*. [Stevens Point, Wis., Sentry Insurance, 1979] 104 p.

This study, which was conducted for Sentry Insurance, finds that "sixty-three percent of the American public believes the use of computers should be 'sharply restricted' in the future if personal privacy is to be preserved and a majority of Americans believe that corporations—even more than such a major government institutions as the FBI and CIA—are mishandling the personal information they collect on individuals. Moreover, Americans were found to have grown substantially more concerned about the erosion of personal privacy in recent years. The survey, 'The Dimensions of Privacy' is based on over 1,500 interviews with a national cross-section of the adult American population and more than 600 interviews with so-called 'leadership groups,' including the Congress, business executives, [and] Federal regulatory officials among others."

Masnick, George, and Mary Jo Bane. *The nation's families: 1960-1990*. Cambridge, Mass., Joint Center for Urban Studies of MIT and Harvard University [1980] 197 p. (Joint Center outlook reports)

Projections to 1990 based on cohort analysis show varied and more "complicated" relationships and household types. Though most people will marry they will tend to do so later, fewer years will be spent in conventional nuclear families and people will tend to move through various household types during

their lifetimes. Study foresees a revolution in female employment.

McCarthy, Kevin F., and Peter A. Morrison. The changing demographic and economic structure of nonmetropolitan areas in the United States. Santa Monica, Calif., Rand, 1979. 65 p. (Rand Corporation. [Report] R-2399-EDA)

The authors examine the demographic evidence of renewed population growth in nonmetropolitan areas, how this growth is manifesting itself in different types of areas and how this growth affects economic well-being and population composition of different areas.

Menzies, Ian. Boston 2000. *Boston globe*, Aug. 24, 1981: 2; Aug. 25: 2; Aug. 26: 2; Aug. 27: 2.

In this four part series, *Globe* columnist Menzies "making use of extensive interviewing and research projections, draws a word picture of the dramatic changes—in economy, lifestyles, growth, crime, politics, transportation, personal relationships, and government—the experts predict Boston will experience over the next 19 years."

Miller, David C., Richard P. Evans, and Douglas Ferguson. The demographics of values. Menlo Park, Calif., SRI International, 1979. 52, [29] p. (VALS report no. 4)

"The present report describes the demographic characteristics of the VALS typology at a macro three-level aggregation (Need-Driven, Outer-Directed, Inner-Directed) and at a more micro six-level aggregation consisting of groups called Survivors, Sustainers, Belongers, Emulators, Achievers, and Inner-Directeds." This technical paper describes methods and gives the VALS weighted multivariate classification algorithm to analyze field data on a probability sample of the U.S. adult population.

Mitchell, Arnold. Attitudinal and other correlates of values [by] Arnold Mitchell and others. Menlo Park, Calif., SRI International, 1979. 51 p. (VALS report no. 5)

Report provides data that can serve as a useful linkage between values and most research data reflecting the priorities and attitudes of consumers.

---- Social change: implications of trends in values and lifestyles. Menlo Park, Calif., SRI International, 1978. 44 p. (VALS report no. 3)

"This report explores the implications for social change flowing from probable trends in the values and lifestyles of Americans during the coming decade."

Moore, W. S., and Rudolph Gerhard Penner, editors. The Constitution and the budget: are constitutional limits on tax, spending, and budget powers desirable at the Federal level? Washington, American Enterprise Institute for Public Policy Research, c1980. 155 p. (AEI symposia, 80B)

The conference examined whether or not a constitutional convention would be the best way of dealing with the problem of Federal deficits. Participants examine Article V of the Con-

stitution, and the viability of calling a constitutional convention to get a balanced budget amendment. The possibility that constitutional constraints on economic policy making might place severe rigidities on the decision making process is explored.

Morrison, Peter A. The transition to zero population growth in the Midwest. Santa Monica, Calif., Rand, 1979. 29 p.

"N-1167-NICHD/EDA"

Surveys population growth and migration trends in the U.S, examines their manifestations in the Midwest, and considers their future implications.

Mortimer, Kenneth P., and Michael L. Tierney. The three "r's" of the eighties: reduction, reallocation and retrenchment. Washington, American Association for Higher Education, 1979. 84 p. (AAHE-ERIC/higher education research report no. 4, 1979)

The author reviews the major conditions affecting the environmental milieu in which colleges and universities will have to function in the eighties. These include a decline in the number of available students, rising institutional costs, and changes in students' curricula preferences. The report notes responses which colleges and universities have made to these changing conditions and looks at trends in institutional behavior for the coming decade.

Novak, Michael, ed. Democracy and mediating structures: a theological inquiry. Washington, American Enterprise Institute for Public Policy Research [c1980] 216 p.

Presents proceedings of a seminar exploring the differences between capitalism and socialism in relation to religious values. The contributors "approach this subject by examining the role of mediating structures which stand between the individual and the state--the family, the church, the corporation, and the labor union."

Ritterbank, Paul., and Steven M. Cohen. Will the well run dry? The future of Jewish giving in America. New York, National Jewish Conference Center, 1979. 8 p.

The authors suggest that recent trends indicate that Jewish fundraising for philanthropic activities, renowned for its efficiency and effectiveness, will likely face diminishing contributions in coming years.

Rossman, Parker. Appropriate punishment: the key to rehabilitating criminals. *Futurist*, v. 15, Apr. 1981: 41-47.

"Traditional methods of punishment breed rage, alienation, and crime. To be effective, punishment in the future must include some kind of reconciliation with society. Given today's unworkable and deteriorating criminal justice system, the question is not whether traditional methods of punishment must change, but how. Modern societies must learn to punish well."

Schwartz, Peter, and James Ogilvy. The emergent paradigm: changing patterns of thought and belief. Menlo Park, Calif. [SRI International] 1979. 62 p. (VALS report no. 7)

"There is emerging evidence that a basic shift is under way in people's ideas and perceptions about the properties of the natural world and the human condition. In this report, the evidence drawn from varied fields of science, philosophy, politics, and the arts is assembled and presented in both summary and more extended form."

Smith, Ralph E., ed. *The subtle revolution: women at work*. Washington, Urban Institute, c1979. 279 p.

Contents.—The movement of women into the labor force, by R. Smith.—Women in the job market: occupations, earnings, and career opportunities, by N. Barrett.—Women in the job market: unemployment and work schedules, by N. Barrett.—Women's employment and marriage, by S. Hofferth and K. Moore.—Women and their children, by K. Moore and S. Hofferth.—Women's economic contribution to the family, by C. Vickery.—Institutional responses: the Federal income tax system, by N. Gordon.—Institutional responses: the social security system, by N. Gordon. By 1978, 50 percent of the female population sixteen years of age and over were in the labor force, and 48 percent of married women were working. Estimates to 1990 project that one million additional women will enter the work force each year. This study examines the impact of the growth of women in the work force and what it means to a society once dominated by the notion of "one-earner" families.

Symposium on the future of human rights in the world legal order. *Hofstra law review*, v. 9, winter 1981: 337-592.

Partial contents.—Introduction: human rights and jurisprudence, by M. McDougal and L. Chen.—Some thoughts on the decline of international law and future prospects, by R. Falk.—The treaty power and national foreign policy as vehicles for the enforcement of human rights in the United States, by C. Oliver.—Objections to western conceptions of human rights, by C. Murphy, Jr.—World refugee assistance: the role of international law and institutions, by V. Nanda.—Human rights and the emerging international constitution, by H. Taubenfeld and R. Taubenfeld.—A personal reflection on international covenants on human rights, by D. Rusk.

Thomas, William V. *America's changing suburbs*. [Washington] Editorial Research Reports, 1979. 583-599 p. (Editorial research reports, 1979, v. 2, no. 6)

Contents.—Signs of suburban transition.—Evolution of the outer city.—Future of metropolitan U.S.A.

U.S. Congress. House. Committee on Education and Labor. Subcommittee on Elementary, Secondary, and Vocational Education. *Needs of elementary and secondary education in the 1980s; a compendium of policy papers*. Washington, U.S. Govt. Print. Off., 1980. 693 p.

At head of title: 96th Cong., 2d sess. Committee print.

U.S. Congress. Office of Technology Assessment. *Forecasts of physician supply and requirements*. Washington [For sale by the Supt. of Docs., U.S. Govt. Print. Off.] 1980. 86 p.

"OTA-H-113"

"Report evaluates the assumptions, methods, and results of the two current models used to forecast the number and kinds of physicians the country is likely to have."

U.S. President's Commission for a National Agenda for the Eighties. A national agenda for the eighties; report. Washington, For sale by the Supt. of Docs., U.S. Govt. Print. Off., 1980. 214 p.

Contents.—A decade of choices.—The demographic background: toward a portrait of America in the eighties.—Restoring economic growth and stability in the eighties.—A social agenda for the eighties.—Democracy, politics, and institutions in the eighties.—U.S. policy in the world of the 1980s.

An appendix contains summaries of nine panel reports on energy, economics, social policy, government regulation, and foreign relations.

U.S. Social Security Administration. Social security in a changing world. Washington, 1979. 136 p. (DHEW publication no. (SSA) 79-11948)

Partial contents.—Social security: a worldwide issue, by S. Ross.—Sources of revenue of social security systems in 10 industrial countries, by F. McArdle.—Impact of an aging population on social security: the foreign experience, by M. Horlick.—Social security benefits for women in the Federal Republic of Germany, Switzerland, and the United Kingdom, by E. Kirkpatrick.

Watts, William. Americans' hopes and fears: the future can fend for itself. *Psychology today*, v. 15, Sept. 1981: 36-38.

Reports on Potomac Associates' March 1981 *Psychology Today* nationwide survey, which explored the respondents' priorities, hopes, fears, and worries, for the future both for themselves and for the U.S. Sees concern with national and personal economic issues as a national obsession, while the rankings given peoples' aspirations for their children and other family concerns have made a "startling" drop since the 1964 and 1974 surveys.

Yankelovich, Daniel. New rules in American life: searching for self-fulfillment in a world turned upside down. *Psychology today*, v. 15, Apr. 1981: 35-37, 39-40, 43-44, 46-47, 50-52, 54-55, 58-60, 69, 72, 74, 76-78, 80, 82, 85-86, 89, 91.

Suggests that America has "moved from an uptight culture set in a dynamic economy to a dynamic culture set in an uptight economy."

Zimring, Franklin E. Handguns in the twenty-first century: alternative policy futures. In *Gun control*. Philadelphia, American Academy of Political and Social Science, 1981. (*Annals*, v. 455, May 1981) p. 1-10.

Describes two mutually exclusive national policies toward handguns. "The first policy, federal support for state and local variation in handgun control, represents a logical extension of historical trends in federal firearms control since the 1930s. The second policy, federal commitment to reduce substantially the availability of handguns nationwide, would represent a sig-

nificant departure from previous federal regulatory approaches."

I. DESCRIPTION OF FOUR FUTURES-ORIENTED JOURNALS

The four journals listed below represent a few of the more popular and readily accessible journals in the field of futures research.

Futures; the Journal of Forecasting and Planning

Began publication in 1968, and is published by IPC Science and Technology Press Ltd., Box 63, Westbury House, Bury St., Surrey GU2 5BH, England. Editor Ralph Jones. Indexed in Current Contents, Engineering Index and Social Science Citation Index. \$104 yearly subscription.

The Futurist; a Journal of Forecasts, Trends and Ideas About the Future

Began publication in 1967 and is published bimonthly by the World Future Society, 4916 St. Elmo Ave., Bethesda, Md. 20014. Indexed in Current Contents and Social Science Index. Editor Edward Cornish. \$15 yearly subscription.

Long Range Planning

Began publication in 1968. Published bimonthly by the Society for Long Range Planning-Pergamon Press Inc., Journals Division, Maxwell House, Fairview Park, Elmsford, N.Y. 10523. Editor Bernard Taylor. Indexed in Social Science Citation Index and in publications of Anba Publication Ltd. and Executive Sciences Institute. \$120 yearly subscription.

Technological Forecasting and Social Change

Began publication in 1969, and is published eight times a year by Elsevier North-Holland Inc., 52 Vanderbilt Ave., New York, N.Y. 10017. Editor Harold A. Linstone. Indexed in British Technology Index, Economic Abstracts, Engineering Index, International Abstracts in Operations Research, International Political Science Abstracts, Journal of Economic Abstracts, Social Science Citation Index. Formerly entitled: Technological Forecasting. \$92 yearly subscription.

CHAPTER 18. FUTURES-ORIENTED THINK TANKS

(By Kenneth Bogen, Analyst in Science and Technology, Science Policy Research Division and Timothy C. Biggs, Senior Research Assistant, Office of Senior Specialists)

This chapter contains brief descriptions of a selected number of "think tanks" in the United States which typically have been involved in projects relating to future studies. Think tanks, broadly defined, are organizations engaged in the study of policy alternatives and recommendations. Originally focused on problem areas in advanced technology development and systems engineering, the research of think tanks today covers a broad range of topics, including domestic problems related to such matters of continuing concern as urban transportation, industrial pollution, health care delivery, education, crime, energy research and development, and environmental matters. When policy research on such topics takes on a long range perspective and makes use of the various analytical techniques of futures studies, such as those involved in forecasting and technology assessment, it can be described as "futures-oriented." The futures-oriented think tanks briefly described in this chapter are intended to constitute a representative sample of domestic sources of futures research and foresight activities relating to policy issues of national importance. This chapter is by no means a comprehensive compendium of such sources. Rather, a limited selection is presented of those think tanks which have been involved often or occasionally in futures-oriented policy research on issues of national significance. The foresight activities undertaken within the congressional support agencies will be described in another volume of this study, *Congressional Foresight: History, Current Status*.

Description outline terms under each futures-oriented think tank name and address are: telephone, date originated, officers, type of organization, staff sources of support, annual budget, objectives and interests, major futures-oriented programs and projects, special facilities (if any), activities, and major recent publications. For some entries, information on funding could not be obtained. All information in the entry listings can be assumed to be current as of 1982, unless otherwise indicated. The primary sources were used for obtaining information for the entry listings in this chapter: (1) *An Introductory to the Study of the Future, Part II, Information Sources for the Study of the Future*, (Washington, World Future Society, January 1977); (2) *The Future: A Guide to Information Resources*, 2nd ed., (Washington, World Future Society, 1979); (3) current information from the organizations themselves and (4) phone interviews.

A. AMERICAN ENTERPRISE INSTITUTE FOR PUBLIC POLICY RESEARCH

1150 17th Street NW., Washington, D.C. 20036, U.S.A.

Telephone: (202) 862-5800

Founded: 1943

Officers: William J. Baroody, Jr., President; Richard B. Madden, Chairman of the Board of Trustees; Charles T. Fisher III, Treasurer.

Non-partisan, non-profit, tax exempt, educational research organization. Staff: 120. Sources of support: Foundation grants and contributions from corporations and individuals. Annual Budget: Approximately \$10 million.

Objectives and interests: To assist policy makers, scholars, businessmen, the press, and the public by providing objective analysis of national and international issues.

Major programs and projects: "Minimum Wage Studies Project"—to analyze the effects on the economy and in society of enforcement of legal minimum wage standards. "Center for Health Policy Research"—to examine the adequacy of the present health care system of the United States. "Legal Policy Studies Program"—to examine the growing controversy over the role of the courts and the law itself in American society. "Tax Policy Studies Project"—devoted to providing the best possible analytic foundation for the continuing debate over tax reform. "Project on the Future Conduct of American Foreign Policy"—focuses on the changing nature of American relations with the rest of the nations of the world. "Public Policy Project on National Defense"—focuses on problems related to promoting peace and, if necessary, assuring the safety of the United States. "Project on Major Economic Problems"—to analyze many of the difficulties the nation is likely to encounter as it attempts to achieve a sustainable rate of economic growth, coupled with an acceptable behavior on price level. "Center for the Study of Government Regulation"—to provide public understanding of the costs and benefits of government regulation. "Social Security Studies"—long-range research by recognized authorities exploring problems related to the administration and financing of the social security system. "The Role of the Mediating Structures in Public Policy"—includes programs addressing local community solutions to problems such as neighborhood revitalization needs and youth crime.

Special facilities: Social sciences library.

Activities: Public Policy Forums—a continuing series of televised public affairs programs featuring face-to-face discussions of major public issues by authorities of varying views. Conferences—Designed to focus on issues of unusual complexity, these sessions provide a forum for leading scholars to discuss critical subjects before invited audiences. "Discussions With"—Provides an opportunity for scholars and other experts on major public policy problems and issues to meet informally and examine ideas with persons from: government, business, labor, and the news media.

Publications: AEI Memorandum (bimonthly); Public Opinion magazine; Regulation magazine; The AEI Economist newsletter; AEI Defense Review. Approximately 100 annual monographs and studies, e.g.: Government Regulation: Proposals for Procedural Reform (1979); Telecommunications Law Reform (1980); Democracy and Mediating Structures, (1981); Congressional Budget Process After 5 Years, (1981); Minimum Wage Measures and Industry Effects, (1981).

B. BATTELLE MEMORIAL INSTITUTE

505 King Avenue, Columbus, Ohio 43201, U.S.A.

Telephone: (614) 424-6424

Founded: 1925

Officers: Chairman and Chief Executive Officer S.L. Fawcett; President and Chief Operating Officer Ronald S. Paul; Vice President and Director, Pacific Northwest Division, Douglas E. Olesin; Dr. Neil E. Carter, Vice President and General Manager, Battelle Project Management Division; Horst Haeske, Managing Director, Battelle-Institute.V. (Frankfurt); Vice President and Director Valetin Stingelin, Battelle-Institute.V. (Geneva).

Public purpose, not-for-profit organization in research and educational activities. Staff: 6,300. Sources of support: Industry and government. Annual Budget: \$420 million (FY 1981).

Objectives and interests: To benefit mankind by the advancement and utilization of science through technological innovation and educational activities; research is centered in the physical, life, engineering, and social/behavioral sciences.

Major programs and projects: Conducts over 2,700 studies and research programs annually, in the following areas: "Community Life"—encompassing studies aimed at improved housing, safer and more convenient mass transportation, better highways, more effective ways of dealing with complex community problems, and enhanced business and economic activities. "Environment"—including studies in air pollution, water quality, noise pollution, and solid waste treatment. "Energy"—concerned with present-day and potential sources of energy—coal, gas, nuclear, laser fusion, solar, geothermal—and involved with the generation, storage, and use of energy, and related environmental and economic considerations. "Food-Agriculture"—studies in land use, new sources of food, use of agricultural by-products, and methods of enhancing food products. "Health"—development of new drugs, better diagnostic tools, and materials and devices to replace diseased or damaged parts of the body. "Manufacturing Technology"—including planning studies to assist industry in anticipating future demands and constraints.

Special facilities: Maintains a 150,000 volume library and various information analysis services, including Materials and Ceramics Information Center, Magnesium Research Information Center, Iron Information Center, and Battelle's Automated Search Information System, an on-line interactive information data storage, retrieval, and analysis software system.

Activities: Organizes and presents a wide variety of workshops, and special courses that are supported by sponsoring organizations or by attendees through payment of fees. These are conducted mainly through the Center for Improved Education at Battelle-Columbus and the Human Affairs Research Centers in Seattle, Washington.

Publications: Battelle Today (quarterly). Each year the Battelle staff authors hundreds of reports, published articles, papers, and books—890 articles and papers and 18 books in 1977. A list of published papers and articles is issued annually and is available upon request.

C. THE BROOKINGS INSTITUTION

1775 Massachusetts Avenue, NW., Washington, D.C. 20036, U.S.A.

Telephone: (202) 797-6000

Founded: 1927

Officers: Bruce K. MacLaury, President; Joseph A. Pechman, Director of Economic Studies; Martha Derthick, Director of Government Studies; John D. Steinbruner, Director of Foreign Studies; A. Lee Fritschler, Director of Advanced Study Program.

Non-profit organization for research and education in public policy. Staff: 50 senior fellows and research associates; about 175 supporting staff. Sources of support: Foundation, corporations, endowment, U.S. Government. Annual Budget: \$10.4 million estimated for FY81.

Objectives and interests: Policy-oriented research, education, and publication in economics, government, foreign policy, and the social sciences generally.

Major programs and projects: "The Future of Social Security"—Analysis of major issues in financing the social security system. "Long-Term Growth of Output and Productivity"—Analysis of proposals for maximizing U.S. economic growth. "The Future of the Navy"—Examines the optimum size and composition of the U.S. Navy in the year 2000. "Future Problems in U.S.-Japanese Relations"—Examines economic and security problems in U.S.-Japanese relations over the next ten years.

Special facilities: Library of 45,000 volumes supports research in the Institution's main fields of interest (not open to the public); Social Science Computation Center provides computing services to research staff and to other nonprofit organizations in Washington, D.C. engaged in quantitative social science research. Publications program publishes over 250,000 volumes a year in sales.

Activities: Through its conferences, seminars, roundtables, and other educational activities, the Advanced Study Program aids leaders in government, business, and the professions in increasing their understanding of public policy issues. Conferences include: "Public Policy Issues," "Business in Contemporary Society," "Issues in Science and Technology," "Federal Government Operations," "Government, the Economy, and American Society," "Critical Public Policy Issues." Educational programs may be conducted upon request for groups of scholars participating in special fellowship programs. The Institution also sponsors Economic Policy Fellowships, Guest Scholar Program, Federal Executive Fellowships, and Visiting Professional and Younger Scholar Programs.

Publications: *Brookings Bulletin* (quarterly); *Brookings Papers on Economic Activity* (journal, three times a year). Brookings publishes 25 to 30 books and papers annually. Some of the more recent of these include: *Setting National Priorities: The Coming Decade*, Henry Owen and Charles Schultz, editors (1976); *Food Trends and Prospects in India*, F.H. Sanderson and S. Roy (1979); *The Future of Social Security*, A.H. Munne (1977); *Setting National Priorities: Agenda for the 1980's*, J.A. Pechman, ed. (1980); *The Baby Boom Generation and the Economy* L. Russell (in press); Quandt, William, *Saudia Arabia in the 1980s: Foreign Policy, Security and Oil*, (1981).

D. CENTER FOR INTEGRATIVE STUDIES

School of Architecture and Environmental Design, 108 Hayes Hall, State University of New York - Buffalo, 3435 Main Street, Buffalo, New York 14214, U.S.A.

Telephone: (716) 831-3727

Founded: 1968

Officers: Magda Cordell McHale, Director.

Research institute. Staff: 4. Sources of support: University; federal; foundations. Annual Budget: -

Objectives and interests: Primary objectives—global development of future studies and long-range planning. Special interests—human needs and priorities assessment, world trends, resource projections, and social and cultural futures.

Major programs and projects: "Basic Human Needs: A Framework for Action"; "Human Requirements, Supply Levels and Outer Bounds"—assessment of global human needs over time and capacity to meet them within biospheric constraints. "International Survey of Future Studies"—world survey of individuals and organizations in the field. "The Timetable Project"—a continuing assessment of projected relationships between population, resources and technologies. "The Changing Information Environment"—impact of information/communications technologies on society in the next 25 years. "Women in World Terms: Facts and Trends"—comparative study of historical, present, and projected data on women. "The Anatomy of Change"—comprehensive review and projection of major changes in the 20th Century. "The Structure of Conceptual Revolutions"—interrelationships of scientific, social and cultural change. "Children in World Terms"—comprehensive review of present and future data on children worldwide.

Special facilities: Data on world trends; social; cultural; resources. Project files in specialized areas such as sociology of future study and major programs above. Personal library holdings in futures studies, resources and trend data.

Activities: Educational—undergraduate/graduate coursework and independent study; conferences organized in cosponsorship with other institutions.

Publications: *The Future of the Future*, John McHale (George Braziller, Inc. 1969); *The Ecological Context*, John McHale (George Braziller, Inc. 1970); *World Facts and Trends*, John McHale (Collier Books, Inc. 1972); *The Changing Information Environment*, John McHale (Westview Press, 1976); *The Futures Directory*, John McHale and Magda Cordell McHale (Westview Press, 1977); *Basic Human Needs: A Framework for Action*, John McHale and Magda Cordell McHale (Transaction Books, 1977); *The World of Children, 1979 World's Children Data Sheet, and Children in the World*, John McHale and Magda Cordell McHale (Population Reference Bureau, 1979); *Facts and Plans: An Information Chartbook Prepared for the Third Biennial Woodlands Conference on Growth Policy*, (1979); *Future of the Past: Change and Cultural Transformation*, (1979); *New Perspectives on Changing Relationships: Canada, Mexico, and the United States*, (1980); *The Future of the Past: Historical Identity*, (1980); *Facts and Trends: Canada, Mexico, the United States, The World of the Elderly*, (project in progress) John McHale and Magda Cordell McHale (Center for Integrative Studies). In addition, since 1968, the Center has produced numerous reports, papers, articles and studies. Some of these are available from the Center; and *New Perspectives on Changing Relationships: Canada, Mexico, and U.S.*, (1980); *Ominous Trends and Valid Hopes*, (1981).

E. J.F. COATES, INC.

3738 Kanawha Street, NW., Washington, D.C. 20015

Telephone: (202) 966-9307*Founded:* 1979*Officers:* Joseph F. Coates, President and Treasurer.*Private firm:* Staff: 8. *Sources of support:* U.S. Government and commercial.*Annual Budget:* --
Objectives and interests: To assist public and private organization decisionmaking through futures research, technology assessment, and policy analysis.*Major programs and projects:* Identification of future environmental problems. Environmental implications of energy technologies. Development of strategic planning techniques and programs for foundations. Future developments in science and technology affecting the National Bureau of Standards. R&D planning for appropriate technology. Urban water resources. Impact of metric conversion on small business. Policy for Natural and Manmade Hazards. Scenario-building for aviation.*Special facilities:* Book and documents library on topics of corporate interests.*Activities:* Workshops in technology assessment, courses on futures research.*Publications:* Urban Water Problems: A Review of 22 Army Corps of Engineers Urban Studies, H. Hitchcock and J.F. Coates (1980). The Future of the National Bureau of Standards as Affected by Developments in Science and Technology, J.F. Coates (1980). Research Agenda on the Roles and Impacts of Appropriate Technology on Society, the Economy, and Technological Development, J.F. Coates and H. Hitchcock (1980). "Anticipating Future Environmental Problems," J.F. Coates and H. Hitchcock (World Future Society Bulletin, May/ June 1980). Resetting Foundation Agendas, J.F. Coates (1981); A Visit to North America in 2030 and a Look Backward by William Tuckville IV-I-2031 (1982).

F. FORECASTING INTERNATIONAL, LTD.

1001 North Highland Street--Penthouse, Arlington, Virginia 22201, U.S.A.

Telephone: (703) 527-1311*Founded:* 1971*Officers:* Marvin J. Cetron, President and Chairman of the Board; Audrey Clayton, Vice President; Anne Nelsen, Vice President and Corporate Secretary; Charles McFadden, Vice President, Sharon Sugarek, Vice President.*Private research organization.* Staff: 15. *Sources of support:* U.S. Government and commercial. *Annual Budget:* --*Objectives and interests:* Futures studies, technological forecasts, technology assessments, resource allocation models, corporate planning (especially concerning energy, technology transfer, and scientific and technical communication).*Major programs and projects:* "Potential Conflict Situations in 1990-2000 and U.S. Assault Options"--analysis of non-traditional conflicts, U.S. military capabilities and options for assault responses. "Morphological Analysis of Military Assault Platforms"--first phase of on-going study to identify R&D needs generated by future assault capability requirements. "Political, Social and Economic Stability of 30 Key Countries"--projection of future stability of major actors in global affairs. "Protocols to Evaluate Technology Assessments"--to develop a methodology for evaluating and utilizing technology assessment studies. "Technological Imperatives in the 1990s"--to determine needed industrial and government R&D thrusts in the 1980s. "Potential influence of Social, Economic, Regulatory and Technological Factors on Scientific and Technical Communication Through 2000 A.D."--builds on previous analyses with emphasis of technological and non-technological factors on bibliographic retrieval services and computer confirming. "Predictions of Naval Aviation Logistic Requirements"--a continuing multiphased study analysis of potential technological developments and their impacts on naval aviation logistic requirements between 1985 and 1995.*Special facilities:* Data compilations on over 15,000 key events: technological, economic, energy and other resource related, environmental, social, legal, and political; computer with word processing and terminal capability.*Activities:* Seminars and workshops designed for specific clients; consultancy; and specific tasks for customers electing not to do their own forecasts.*Publications:* Forecasting the Effects of Events on Consumer Affairs, N. Nisenoff, A. Clayton, E. Bishop (1978); Three Alternative Future Scenarios for New York City,

Anne Nelsen (1978). A Technological Forecast of the Future Environment and Its Effects on the Tobacco Industry: An Update, The Impact of Future Communications Technologies on the Printing and Publishing Industry, A. Clayton and N. Nisenoff (1979). A Forecast of Future Environmental Protection Requirements and Their Possible Implications for Army Research, S.E. Sugarek, et. al. (1980). Three Alternative Scenarios for International Relations and U.S. Assault Capability in the Years 1990-2000, (1980). The Potential Influence of Social, Economic, Regulatory, and Technological Factors on Scientific and Technical Communication Through 2000 AD (1981).

G. FUTUREMICS, INC.

1629 K Street, NW., Washington, D.C. 20006

Telephone: (202) 667-5620

Founded: 1970

Officers: Robert E. Maston, President

Private, for-profit, research, publication, and educational consulting firm. Staff: 5; 10-30 part-time. Sources of support: Subscriptions, contracts with public and private sectors. Annual Budget: -

Objectives and interests: To assist individuals, groups, and organizations in programming their activities toward the definition and achievement of preferable and desirable futures. The structure of Futuremics is itself experimental, in that the company attempts to embody concepts which the staff believes to be relevant to the future, such as democratic decisionmaking, worker self-management, and maximization of personal growth.

Major programs and projects: Workshop Training Programs--Emphasize participation and goal-directedness; subjects include management by objectives, management of time, management of change, management of creativity, and self-management. Training and Educational Development Division--The development of private and public school systems including comprehensive planning, curricula development and teacher training. Housing and Urban Development Division--Programs to help nations and communities develop plans and projects to provide both construction and community development. Strategic Planning Information Service--using Future Abstracts, reports and executive summaries of reports and documents describing the corporate environment.

Special facilities: Futures library of approximately 2,000 volumes, plus selected periodicals and reports, on topics pertinent to the future; the Dartmouth College (Eldredge) Files--Futuremics is the repository of survey materials collected by H. Wentworth Eldredge on futures courses in higher education throughout the United States.

Activities: The staff members design and run programs, conferences, and workshops, do individual counseling and write and publish materials on subjects related to the future; futuremics contracts to provide services of management and technical specialists, psychologists, speakers, writers, planners, and evaluators.

Publications: Footnotes to the Future (monthly newsletter); Future-Abstracts (monthly abstracting service).

H. THE FUTURES GROUP, INC.

76 Eastern Blvd., Glastonbury, Connecticut 06033, U.S.A.

Telephone: (203) 633-3501 (202) 347-6722

1029 Vermont Avenue, NW., Washington, DC 20005

Telephone: (202) 347-8165

Founded: 1971

Officers: Theodore J. Gordon, President; Harold S. Becker, Executive Vice-President and Treasurer; Lillian Deitch, Vice-President; Robert H. Smith, Vice-President.

Independent, profit-making, research and management consulting company. Staff: 75. Sources of support: Private clients and Federal agency contracts. Annual Budget: 3.8 million

Objectives and interests: Policy analysis and forecasting; assisting management in anticipating the consequences of change; bringing futures research to the solution of practical problems of short-term and long-range planning.

Major programs and projects: Competitive and environmental impacts on agricultural industry. Future environment for the cigarette industry. Agricultural chemicals; emerging research needs. Project to improve the level of awareness within the Agency for International Development, other U.S. Government agencies, and high-level officials within developing countries concerning the interrelationship between population and development. Role of science and technology in North-South [international] relations.

Competitive and environmental impacts on agricultural industry. Future environment for the cigarette industry. Agricultural chemicals; emerging research needs. Project to improve the level of awareness within the Agency for International Development, other U.S. Government agencies, and high-level officials within developing countries concerning the interrelationship between population and development. Role of Science and Technology in North-South [international] relations.

Activities: Proprietary studies, policy and forecasting seminars, workshops, data services (Pharmaceutical Prospects, Globescan, Hospital Prospects, Consumer Prospects, Scout) daily consulting on methods and substantive items. lectures to industry, government, and academia.

Publications: Globscan, Futurescan, Pharmaceutical Prospects (six times a year); The report series, Planning of Market Reports, some of the most recent of which include: The 1980s: Reemergence of the Family, The Labor Force of the 80s, Forecasts About the Office of the Future, The Focus on Health and Safety, and Medical Supply Outlook for the 1980s. Technology Assessment in situ Uranium Mining (1981); Technology of Magnetic Fusion (in Press)

I. HUDSON INSTITUTE, INC.

Quaker Ridge Road, Croton-on-Hudson, New York 10520, U.S.A.

Telephone: (914) 762-0700

Founded: 1961

Officers: Herman Kahn, Director and Chairman of the Board, Gail Potter, President; Frank Armbruster, Director of Interdisciplinary Studies.

Non-profit research institute. Staff: 25 research, plus 35 support staff. Sources of support: Government contracts, corporate support, grants. Annual Budget: -

Objectives and interests: Policy studies in the public interest.

Major programs and projects: "Future of Australia"-several scenarios of the social, political and economic future of Australia. "Future of Westchester"-demographic and economic analysis of Westchester. "Future of Arizona"-Indian problems, water and energy issues, business and social trends, illegal immigration. "The Japanese Challenge"-economic, political, social and international analysis of Japan. "Long Term Prospects for Developments in Space (A Scenario Approach)"-for the National Aeronautics and Space Administration.

Special facilities: Library.

Activities: Lecture-seminars annually; round table discussion meetings; Corporate Environment Program intelligence briefings; three-area Corporate Environment Program meetings (U.S., Japan, Europe) annually; annual meeting of Members.

Publications: The Next 200 Years, Kahn, Brown and Martel (1976); Our Children's Crippled Future, Armbruster, Bracken (1977); World Food Prospects and Agricultural Potential, Chou, Harmon and Kahn (1977); EDA Report-The Future of the U.S. and its Regions, Leveson and Newitt (1978); Suggestions for a Phase II National Energy Policy, Brown (1978); The Future of Brazil, W.H. Overholt, ed. (1978); Will She be Right? The Future of Australia, H. Kahn and T. Pepper (1980); Some Trends in Military Technology, N. Friedman (1979); Forecasting Political Stability and Instability, W.H. Overholt (1979); A Decade of Decision: The U.S. Economic Outlook for the 1980s and Beyond, I. Leveson (1980); Revitalization of the United States, Ernest Schneider (1981).

J. INSTITUTE FOR ALTERNATIVE FUTURES

915 King Street, Suite B42, Alexandria, VA 22314 U.S.A.

Telephone: (703) 960-7855

Founded: 1977

Officers: Clement Bezold, Director

Staff: 2-4 full time. Sources of support: Government, business, and foundation funds. Annual Budget: -

Objectives and interests: The purpose of IAF is to encourage more systematic consideration of the future within government policy making and more effective citizen participation in that process.

Major programs and projects: "Legislative Foresight"--working within Congress and State legislatures to develop futures research capacities. "Anticipatory Democracy"--monitor and aid State and local efforts to involve citizens in exploring alternative futures and setting goals. "Energy." "Future of Law." "Health."

Special facilities: --

Activities: Consultations on Congressional Foresight Hearings; testimony requested for Senate Judiciary Committee; developed national network for preparing and evaluating impact statements; presentations for Congress at Congressional Foresight Fair

Publications: *Anticipatory Democracy: The People in the Politics of the Future*, Clement Bezold, editor, Introduction by Alvin Toffler (1978); "Citizen Participation in Congressional Foresight," Clement Bezold (*The Futurist*, April 1978). *Local Government Foresight*, C. Bezold (1979); *Judging the Future: Alternative Futures and the Legal System*, J. Dator and C. Bezold, eds. (Honolulu, University of Hawaii Press, 1980); *The Future of Pharmaceuticals: Proceedings of the 1978-1979 Foresight Seminars on Pharmaceutical Research and Development*, C. Bezold (New York: John Wiley & Sons, 1980); *The Future of Politics and Government*, C. Bezold, Ed. (*The Futurist*, Dec. 1981).

K. INSTITUTE FOR THE FUTURE

2740 Sand Hill Road, Menlo Park, California 94025, U.S.A.

Telephone: (415) 854-6322

Founded: 1968

Officers: Henry David, Chairman of the Board, Bruce Palmer, Vice-Chairman; Roy Amara, President; Andrew Lipinski, Senior Research Fellow; Gregory Schmid, Senior Research Fellow; Robert Johansen, Senior Research Fellow.

Independent, non-profit research institute. Staff: 20-25. Sources of support: Half private corporations and foundations; half U.S. Government. Annual Budget: \$1.2 million

Objectives and interests: Futures planning on domestic and international issues for both the public and private sector. Primary focus on social environment, economic trends, consumer attitudes, regulatory matters, and technological (primarily energy, computer communications) developments.

Major programs and projects: "The Corporate Environment"--linking futures information to current operating decisions. "Public Policy"--examining the effects of public participation in social choices. "Communications"--applications of teleconferencing and assessment of social and political effects of interactive media in a variety of environments. "Education"--analyzing factors shaping the future of post-secondary education, such as uses of new technology and the role of the corporation. "International Studies"--examining international and cross-cultural developments, with emphasis on the impact of the corporation in an interdependent world.

Special facilities: Maintains a library of books, periodicals, and journals monitoring demographic, social, economic, regulatory, technological, and international developments (not for public use).

Activities: Annual meeting of Corporate Associates including presentations and workshops on the corporate environment ahead. Special seminars between Institute staff, client groups, and Institute consultants (drawn from active file of 300 individuals). Teleconferences on wide range of topics including transportation, agriculture, and minerals.

Publications: *Cap Report* (six issues a year), available to Corporate Associates only; *Newsletter* (four issues a year), available to the public without charge; *Technological Alternatives and Social Choices*, Robert Johansen, Jacques Vallee, and Kathleen Spangler (1978); *Forecasting Attractive Acquisition Areas*, Michael Palmer and Gregory Schmid (1978); *Climate Change to the Year 2000: A Survey of Expert Opinion*, Roy Amara and Hubert Lipinski (1978); *Group Communication through Computers, Volume 5*, Robert Johansen, Robert De Grasse, Jr., and Thaddeus Wilson (1978); *The Insurance World of 1990: Environmental Scenarios*, Gregory Schmid and Roy Amara (1977); *Policy Choices in Vocational Education*, G. Schmid (1979); *The Futures Field*, Roy Amara (1980); *Building a new partnership: Microcomputers and the Handicapped*, Pat Quarles and Red Burns (1981); *Toward the Year 2000: National Priorities*, Roy Amara (1981).

L. MIDWEST RESEARCH INSTITUTE

425 Volker Boulevard, Kansas City, Missouri 64110, U.S.A.

Telephone: (816) 753-7600

1750 K Street, NW., Washington, D.C. 20006

Telephone: (202) 293-3800

Founded: 1944

Officers: John McKelvey, President; John A. Dinwiddie, Vice-President and Treasurer; Harold Hubbard, Vice-President, Operations; Dennis Hayes, Vice-President and Director, Solar Energy Research Institute; Eugene Vandegrift, Vice-President, Social and Engineering Systems; Florence I. Metz, Vice-President, Chemical and Biological Sciences.

Private, not-for-profit research institute. Staff: 1000, including the Solar Energy Research Institute, Golden Colorado. Sources of support: Contract research and development with industry and government agencies. Annual Budget: \$50 million in 1981.

Objectives and interests: Research on public issues of national and regional importance, including policy analysis, delivery of public services, regional development, and technology and social assessments; and futures analyses.

Major programs and projects: "Econometric Supply/Demand Modeling of Helium Resources of 2000"—an examination of projected supply and demand for helium." Survey of Technology Assessment in the Private Sector—an interview-questionnaire survey and analyses of TA in industry. "A Preliminary TA of Jojoba Bean Development"—an analysis of the impact of the development of the Jojoba bean. "A Technology Assessment of the Integration of the Pork Industry"—an examination of the social impacts of changes in pork production. "Forecasting Emerging Environmental Problems: Development of a Plan"—an analysis of some anticipated needs of environmental problems.

Special facilities: American Industrial Development Council Library; Resource and Environmental Profile Analysis (REPA) Data Bank; Quality of Life Data Bank; Leisure/Recreation Data Bank; Environmental Profiles of LDC's Data Bank; Technology Assessment and Planning in the Private Sector Data Bank; The Solar Energy Research Institute (SERI) has become a division of MRI and all solar energy research will be funded through this laboratory.

Activities: "Midcontinent Perspectives: Year 2001"—a lecture series on issues of importance to the midcontinent region with monthly sessions, attendance by invitation.

Publications: MRI Quarterly; Midcontinent Perspectives (monographs, published regularly); Quality of Life in the United States, Quality of Life in the U.S. Metropolitan Areas, Technology and Social Shock, Edward Lawless (1977); "Environmental Impact Assessment and Water Pollution Management," B. Liu, Proceedings of the Institute of Environmental Sciences (1978); "Technology Assessments in Agriculture," E. W. Lawless, in Technology Assessment for Development (1978); Technology Assessment on Guayule Rubber Commercialization, Ed Lawless (1980).

M. THE MITRE CORPORATION

Box 28, Bedford, Massachusetts 01730, U.S.A.

Telephone: (617) 271-2000 and Westgate Research Park, McLean, Virginia 22101, U.S.A.

Telephone: (703) 827-6000

Founded: 1958

Officers: Robert O. Charpie, Chairman, Board of Trustees; Robert R. Everett, President; Charles A. Zraket, Executive Vice-President; Kenneth F. McVicar, Vice-President and General Manager, C3I Division; S. William Gouse, Vice President and General Manager, Metrek; Charles A. Fowler, Vice-President and General Manager, Bedford Operations; Alexander J. Tachmindji, Vice-President and General Manager, Washington C3I Operations.

A non-profit, non-stock, engineering and research organization. Staff: 3,900. Sources of support: Contracts from federal, state, and local governments, two thirds of total being Department of Defense contracts. Annual Budgets: \$123 million.

Objectives and interests: To perform research, development, engineering, and advisory services of a scientific nature to solve public problems.

Major programs and projects: MITRE's programs are detailed in reports for government agencies. Some which reflect a futures orientation include: "A Technology Assessment Methodology" (7 volumes); "Telecommunications for a Decentralized France in the Year 2000"; "Energy Resources for the Year 2000 and Beyond, with Scenarios for the Year 2000 and the Year 2100"; "Computer Memory Technology Forecast, 1985." Other research projects are underway in high speed rail systems; automatic vehicle locators; development of environmental pollution measures and control techniques; advanced energy systems using fossil and solar energy; and interactive systems using cable TV.

Special facilities: Library in the Bedford facility specializes in systems engineering, business management, computer technology, electrical and electronic engineering, information theory, regional planning, and air and water pollution. Library in Washington facility specializes in systems engineering, communications systems (cable television, military communication, computer-assisted instruction), environmental problems (especially air and water quality, energy, and environmental impact), law enforcement, mass urban transportation, aviation traffic systems, and civil systems.

Activities: Sponsors conferences on energy, transportation, law enforcement, health care delivery systems, etc., with attendance by invitation.

Publications: *Mitre Matters* (biweekly, for employees). Most MITRE reports are available from one of the Government report clearinghouses (DDC, ERIC, NTIS), from which they may be procured. Recent publications include: *Seminar on Issues Affecting the Future of the Motor Vehicle* (1979); *U.S. Transportation: Systems and Overview*, J. Fernside (1980); *Near-Term Response to an Oil Cutoff: Solar and Energy Alternatives*, C. G. Miller and C. A. Zraket, eds. (1980); *Environmental Outlook, 1975-2000: Federal Region V*, M. L. Wilson (1980); *An Approach to Determining Future Energy Conservation Strategies*, Mr. Markus-Kramer and ShyangLai Kung (1980); *Solar Energy Systems and Resources*, C. A. Zraket and M. N. Scholl (1980).

N. NATIONAL PLANNING ASSOCIATION

1606 New Hampshire Avenue, NW., Washington, D.C. 20009, U.S.A.

Telephone: (202) 265-7685

Founded: 1934

Officers: Walter Sterling Surrey, Chairman; Alxander C. Tomlinson, President; Neil McMullen, Perry Lea, Executive Vice-President of the International Division; Nestor Terleckyj, Vice-President and Director, Domestic Research Center.

Private, non-profit planning and research organization. Staff: 28. Sources of support: Private contributions, foundation grants, government contracts, publications sales, individual memberships. Annual Budget: \$1.4 million.

Objectives and interests: Planning, research, and policy analysis on domestic and international issues; fostering planning and development of planning techniques and data. Specializes in economic and demographic trend analysis and projections, public policy research, technical research in human and social resources development, and studies on domestic and international economic topics.

Major programs and projects: "National and Regional Economic Projections"—Economic and demographic projections for ten years ahead for the U.S. multistate regions, States, and Standard Metropolitan Statistical Areas. "National Manpower Survey"—Projection and analysis of manpower needs and related training and education requirements in law enforcement and criminal justice through 1985. "Goals Accounting System"—Development of a system relating change in future social conditions, measured by selected indicators, to combinations of public and private activities and available resources. "National Goals Research"—Estimation of dollar and manpower requirements for achievement of specified national goals. "Energy-related Manpower"—Projection of manpower requirements by occupation associated with alternative scenarios of domestic energy production.

Special facilities: Regional economic and demographic data bank.

Activities: Sponsors some 20 meetings every year of policy committees composed of leaders in business, labor, agriculture, and the professions.

Publications: *Looking Ahead Projection Highlights* (newsletter, monthly); *New International Realities* (newsletter, three times a year); *National Economic Projection Series* (semi-annually); *Regional Economic Projection Series* (semi-annually); *Improvements in the Quality of Life: Estimates of Possibilities in the United States*,

1974-1983, Nestor E. Terleckyj (1975); Clash of Culture: Management in an Age of Changing Values, Carl H. Madden (1975); Growth Outlook for the Economy, M. E. Terleckyj (1978); The National Manpower Survey of the Criminal Justice System (U.S. Dept. of Justice, (1978); Growth of Industries, 1978-1987, D.M. Levy (1979); Canada-U.S. Relations: Policy Environment, Issues, and Prospects, H. Von Riekhoff, et al. (1980); Problems and Prospects for U.S. Agriculture in World Markets, T. Josling (1980); The Impact of Inflation on U.S. Productivity and International Competitiveness, M. J. Boskin, et al. (1980). Industry Innovation in the United Kingdom, Canada and the U.S., Kerry Schott 1981; Preparing for Contingency of Intense Pressure on U.S. Food Producing Resources, Harold F. Breimyer (1982).

O. PORTLAND STATE UNIVERSITY, FUTURES RESEARCH INSTITUTE

P.O. Box 751, Portland, Oregon 97207, U.S.A.

Telephone: (503) 229-4960

Founded: 1973

Officers: Harold A. Linstone, Director; James Wilson; Heather Rode.

Research institute: Staff: 4-6. *Sources of support:* Portland State University and the Annual Budget-

Objectives and interests: Futures research; publications; conferences and seminars.

Major programs and projects: The use of structural modeling and alternate decision models (multiple perspectives) for technology assessment.

Special facilities: Forecast data file; library for futures research.

Activities: Various research studies; visiting scholars and lecturers.

Publications: Technological Forecasting and Social Change (8 issues per year); The Delphi Method, H. Linstone and M. Turoff, eds. (1975); Technological Substitution, H. Linstone and D. Sahal (1976); Futures Research: New Directions, H. Linstone and W. H. C. Simmonds (1977); Technological Change: A Macho Perspective, R. J. Van Wyk, (1978); The Use of Structural Modeling for Technology Assessment, H. H. Linstone, et al; Technology Forecast and Social Change (1979); A Society in Transition: An Overview of Salient Trends, H. A. Linstone, (1980); the Multiple Perspective Concept, H.A. Linstone et al., (1981).

P. PREDICASTS, INC.

200 University Circle Research Center, 11001 Cedar Avenue, Cleveland, Ohio 44106, U.S.A.

Telephone: (216) 795-3000

Founded: 1960

Officers: Richard Harris, President; Melvin Burk, Vice President and Controller; Robert M. Baumgartner, Vice-President, Information Services; Sue Hecht, Vice President, Digest Services; Arthur Ness, Vice President, Systems; Paul E. Owen, Vice President, Sales and Online Services; Fern Pomerantz, Vice President, Marketing Services.

Privately-held, fully integrated business information and research firm. Staff: 110. *Sources of support:* Subscriptions, service fees. *Annual Budget:*-

Objectives and interests: A major contributor to the development of information technology. Predicasts is devoted to helping clients access business and economic information. Services are directed toward providing librarians with comprehensive indexes to business information and bibliographies of marketing climate, and the economy; giving the planner rapid access to rational forecasts-both general and specific; and bringing to executives the sophisticated studies needed to evaluate alternate strategies and determine policy.

Major programs and projects: Predicasts-quarterly publication which presents statistical abstracts to forecasts to the year 2020 published in over 1,000 sources; forecasts cover the full range of U.K.S. business and economic activity and are arranged by subject; composite forecasts to 1990 are derived and presented for 500 key economic series. Predicasts' Basebook-companion publication which presents historical time series data from 1960-77. Worldcasts-published quarterly in two editions, this is the international edition of Predicasts; forecasts are arranged by geographic region/country and by subject, with composites to 1990 included. "Industry and Statistical Studies"-about 30 published annually, analyzing the full economy and selected industries, with emphasis on plastics, electronics, and paper; list included

studies covering U.S. and worldwide industries. "Market Reports"—titles fall under resource, growth, U.S. world or industry structure, facilities, technology, regulation markets and enduses, summary of findings including consensus forecasts.

Special facilities. Predicasts' Information Center contains over 5,000 worldwide titles, including newspapers, government and industry reports, bank letters, corporate reports. All documents are abstracted and indexed for periodicals and databases. "Predicasts Terminal System" (PTS) is an on-line database compiled in a joint venture with Lockheed Information Systems (DIALOG) and System Development Corporation (ORBIT). PTS files contain over one million statistical, index, abstract, and bibliographic records. It is worldwide in scope and includes computational capabilities, accessible to clients in North American and Europe on a subscription basis.

Activities. Three types of seminars held throughout U.S. and Europe: "Introductory"—to acquaint participants with on-line systems and capabilities, participation open, no charge; "Literature Retrieval Training"—teaches how to search PTS files, participation open, fee charged; "Advanced Training"—a review of search skills and training on computational mode of PTS, participation open, fee charged. Custom PTS training sessions, fee charged plus expenses.

Publications: Prompt (monthly); Predi-Briefs (monthly); Marketing Ideas (biweekly); Financial Ideas (biweekly); Technical Survey (weekly); Federal Index (monthly); Source Directory (quarterly); F&S Index International (monthly, quarterly); F&S Index of Corporations and Industries (weekly, monthly, quarterly); F&S Index Europe (monthly, quarterly); F&S Index of Corporate Change (quarterly); Reinforced Plastics, J. Wimberly (1978); World Automotive Aftermarket, J. Pirnat (1978); Industrial Packaging, J. Brock (1978); U.S. Energy Outlook to 1990, J. Pirnat (1978); World Rubber and Tire Markets, J. Vetter (1978); Space Satellite Applications (1979); Recycled Plastics (1980).

Q THE RAND CORPORATION

1700 Main Street, Santa Monica, California 90406, U.S.A.

Telephone: (213) 393-0411

Founded: 1948

Officers: Donald B. Rice, President; Gustave H. Shubert, Senior Vice-President and Head, Domestic Research Division; William E. Hoehn, Jr., Vice-President, Project Air Force Division; Dale M. Lanid, Vice-President, National Security Research Division; Paul T. Hill, Director, Washington, D.C. Operations.

Private, non-profit research institution. Staff: 940; 250 research professional consultants. Sources of support: Federal, State, and local governments; private foundations and other philanthropic sources; funds drawn from fees earned. Annual Budget FY81 \$41.7 million.

Objectives and interests: To perform research and analysis of matters affecting security and the public welfare.

Major programs and projects: Emphasis in Rand programs is more an application than on basic research and centers on problems of policy, planning, and development. Domestic programs: criminal justice; education and human resources; energy policy; health sciences; housing; labor and population; regulatory policies and institutions; urban policy. National security programs: applied science and technology; strategic assessment; international security policy; ground warfare; manpower, mobilization, and readiness; information processing systems. Project Air Force programs: technology applications; strategic systems; operations and readiness improvements; theater conflict; manpower, personnel, and training; systems acquisition management.

Special facilities: Library of 63,000 books, 220,000 reports, and 2,600 active periodical titles.

Activities: Conferences, seminars, and courses for employees in computer science; Rand Graduate Institute (accredited) offers an innovative graduate program leading to a doctoral degree in policy analysis which couples formal training with on-the-job training in applied analysis through work on Rand research projects.

Publications: Selected Rand Abstracts (quarterly journal); Rand publications, including 300 new titles each year, and are placed in subscription libraries worldwide, and individual titles may be purchased directly from Rand. Some titles include: The Changing Demographic and Economic Structure of Nonmetropolitan Areas in the United States, K. F. McCarthy and P. A. Morrison (1979); Giant Oil Fields and World Oil Resources, Richard Nehring (June 1978); Nuclear Reactor Spent Fuel Valuation: Procedure, Applications, and Analysis, Kenneth A. Solomon (November

1978); The Changing Demographic and Economic Structure of Nonmetropolitan Areas in the United States, K.F. McCarthy and P.A. Morrison (1979); The Transition to Zero Population Growth in the Midwest, P.A. Morrison (1979); Female Labor Supply: Theory and Estimation, J.P. Smith, ed. Geriatrics in the United States: Manpower Projections and Training Considerations, R.L. Lane, et al. (1980). Demographic Certainties and Uncertainties in Future of Social Security, P.A. Morrison (1981); U.S. Women at Work, Linda S. White, (forthcoming); U.S. Demographic Outlook, William T. Butz and P. Morrison (forthcoming).

R. RESOURCES FOR THE FUTURE, INC.

1755 Massachusetts Avenue, NW., Washington, D.C. 20036, U.S.A.

Telephone: (202) 328-5000

Founded: 1952

Officers: Emery N. Castle, President; M. Gordon Wolman, Chair-man of the Board of Directors; Clifford S. Russell, Director of Quality of the Environment Division; Rachel N. Nillson, Director of Public Affairs Division; Milton Russell, Director of the Center for Energy Policy Research; Kenneth Frederick, Director of Renewable Resources Division

Private, non-profit research organization. Staff: 105. **Sources of support:** Ford Foundation, other foundations, Federal and private grants, investment income. **Annual Budget:** \$5 million.

Objectives and interests: To advance the development, conservation, and use of natural resources and the improvement of the quality of the environment through research and education, with energy as a special concern.

Major programs and projects: Study of alternative national energy policies; environmental policy assessment; examination of differences in international energy consumption and gross national product; research on all aspects of the nuclear fuel cycle; project seeking balance between sustainable world economic growth and international order; estimation of pollution control benefits; forest economics and policy program.

Special facilities: Maintains an energy library, including documents of Ford Foundation Energy Policy Project, with limited access to scholars.

Activities: Conferences, workshops, and seminars, regularly scheduled and occasional, are held throughout the year, with participants from academe, government, and the private sector. Subjects of these in the past have included U.S. oil import policy; materials modeling; Regional Environment Quality Management Modeling; Metropolitan Growth and Collective Choice; Public Policy and the Quality of Life in Cities; Population Policy from a Socioeconomic Perspective; Constraints on Economic Growth; Modeling Natural Resource Price Changes; Public Choice Theory in Rural Development Planning.

Publications: Resources (bulletin, three times a year); Resources in America's Future, Landsberg, Fischman, and Fisher (1963); In Command of Tomorrow, Brubaker (1975); The Economics of Natural Environments, Krutilla and Fisher (1975); An Overview and Interpretation of Energy in America's Future: The Choice Before Us, S. H. Schurr, et al. (1979); To Choose a Future: Resource and Environmental Consequences of Alternative Growth Paths, R. G. Ridker and W. D. Watson (1980). High Energy Costs - Uneven, Unfair, Unavoidable? Hans H. Landsberg and Joseph M. Dukert (1981).

S. SRI INTERNATIONAL, WORLD BUSINESS DIVISION

33 Ravenswood Avenue, Menlo Park, California 94025, U.S.A.

Telephone: (415) 859-4834

Founded: 1967

Officers: Jay Ronald Nater, Vice President, World Business Division; William Grindley, Associate Executive Director; Willis W. Harman, Senior Staff Scientist

Independent, non-profit research institute. Staff: 16. **Sources of support:** corporations. **Annual Budget:** -

Objectives and interests: Assisting business in their assessment and formulation of policies that will simultaneously address current needs and help direct the nation's institutions toward a workable, high quality future.

Major programs and projects: Future of Transnational Corporations in Global Development. General assistance to transnational corporations in understanding future business environments. Business Futures Program.

Special facilities: Maintain special collection of books, periodicals, reports, and clippings on futures, social policy, images of man, societal problems, energy policy, and social trends. (Not for public use.) Access to extensive professional staff and facilities of Stanford Research Institute.

Activities: Mainly consulting.

Publications: California Energy Futures, Richard Carlson (1982); Seven Tomorrows (1982); A Methodology for Developing Alternative Futures Scenarios, T.F. Mandel (1978); Solar Energy in America's Future: A Preliminary Assessment, John S. Reuhl et al. (1977); Handbook of Forecasting Techniques, Mitchell, Arnold et al. (1975); Reports for corporate clients.

T U.S. FEDERAL AVIATION ADMINISTRATION, OFFICE OF AVIATION POLICY AND PLANS, FORECASTING BRANCH (APO-110)

Room 935, 800 Independence Avenue, SW., Washington, D.C. 20951

Telephone: (202) 426-3103

Founded: (originally) 1974 (current organization) 1982

Officers: Gene Mercer, Chief.

Government Staff: 4 professionals. **Sources of support:** Federal Aviation Administration appropriations. **Annual Budget:** -

Objectives and interests: Demographic, economic, social, and technical trends affecting aviation, and other factors leading to long-range aviation policy development.

Major programs and projects: Socioeconomic Impact Assessment; Communication Industry (TF&A for Aviation Impacts); Future helicopter technology.

Special facilities: -

Activities: -

Publications: Aviation Futures to the Year 2000 (1976); The Impact of Microcomputers on Aviation: A Technology Forecasting and Assessment Study (1977); Terminal Area Forecast, annual publication (1979); FAA Aviation Forecasts, 1982-1993, (in press); forecasts and assessments of technology trends and aviation applications in alternative socioeconomic scenarios to 2000.

U. U.S. NATIONAL SCIENCE FOUNDATION, TECHNOLOGY ASSESSMENT AND RISK ANALYSIS GROUP (DIVISION OF POLICY RESEARCH AND ANALYSIS)

1800 G Street, NW., Washington, D.C.

Telephone: (202) 357-9828

Founded: 1979

Officers: Joshua Menkes, Group Leader; Vincent T. Covelio, Jeryl Mumpower, G. Patrick Johnson; Mark Abernathy.

Government Staff: 5 professionals. **Sources of support:** National Science Foundation appropriations. **Annual Budget:** \$1.4 million in FY82.

Objectives and interests: Support of original research in the areas of technology assessment and risk analysis.

Major programs and projects: Studies in technology assessment seeking to systematically identify and examine the planned and unplanned consequences of technology that are indirect, unanticipated, and delayed. Studies in risk analysis seeking to better understand how information about risk is used in the social and technology policy decisionmaking process and how consideration of the public and private costs and benefits are balanced in the social and technology policy decisionmaking process. Thirty-one projects are ongoing in FY1982, and a total of 103 projects have been completed.

Special facilities: -

Activities: Support of research activity.

Publications: No in-house publications. Research reports available through the National Technical Information Service.

V UNIVERSITY OF SOUTHERN CALIFORNIA, CENTER FOR FUTURES RESEARCH

Graduate School of Business Administration, Los Angeles, California 90007, U.S.A.

Telephone: (213) 743-5229

Founded: 1971

Officers: Burt Nanus, Director; Selwyn Enzer, Associate Director; Wayne I. Boucher, Senior Research Associate; James O'Toole, Senior Research Associate; Paul Gray, Senior Research Associate; Warren Bennis, Senior Research Associate; Ian Mitroff, Senior Research Associate; Richard Drobnick, Research Associate.

University research institute. Staff: Approximately 20 full- and part-time professionals. Sources of support: 95 percent corporations and foundations; 5 percent government. Annual Budget: Approximately \$500,000.

Objectives and interests: To develop methodologies to study social change; conduct multi-disciplinary policy analyses and forecasts in major economic, technological, social, and business areas.

Major programs and projects: "Interax: Interactive Cross-impact Simulation"--sponsored by 10 corporations. Innovation in America. Exploring Energy Issues. Future of the Consumer Finance Community. The Future of property and casualty insurance. Los Angeles 200 plus 20--on the future of Los Angeles. Personal Computers and business futures. The future of life insurance. Political Risk Analysis.

Special facilities: -

Activities: Holds workshop on "futures research techniques for corporate planners" three or four times a year; occasional seminars for businessmen, academics and government officials; regular graduate courses in long-range planning and futures research, leading to MSBA in strategic planning.

Publications: Annual report and bimonthly newsletter available free; approximately 80 other working papers available at cost; Energy and Social Change, James O'Toole (MIT Press, 1976); Neither Feast Nor Famine, Selwyn Enzer et al. (Lexington Books, 1978); Employee Entitlements in the 1980's, J. O'Toole, et al. (1979); Interax-Phase II, S. Enzer (1979); The Emerging Network Marketplace, H. Dordick, et al. (Norwood NJ, Ablex, 1980). Making America Work, J. O'Toole (Continuum Publishers, 1981); Exploring the World of the Personal Computer, Jack Nilles (Prentice Hall Publishing Co. 1982).

W. WORLD FUTURE SOCIETY

4916 St. Elmo Avenue, Washington, D.C. 20014, U.S.A

Telephone: (301) 656-8274

Founded: 1966

Officers: Edward S. Cornish, President; Frank Snowden Hopkins, Vice-President; Peter Zuckerman, Secretary-Treasurer.

Non-profit, scientific, and educational association. Staff: 20. Sources of support: Members' dues, sales of books and publications, occasional gifts and grants. Annual Budget: \$972,000.

Objectives and interests: To contribute to a reasoned awareness of the future and of the importance of its study, without advocating particular ideologies or engaging in political activities; to advance responsible and serious investigation of the future; to promote the development and improvement of methodologies for the study of the future; to increase public understanding of future-oriented activities and studies.

Major programs and projects: "The Future: A Comprehensive Look at What Tomorrow Holds by the World Future Society"--prepared as a special on the future for the 1981 edition of the Hammond Almanac: A similar feature is now being prepared for the 1982 edition.

Special facilities: Book store.

Activities: Chapters, committees or coordinators in approximately 100 cities of the world, with local groups sponsoring lectures and other activities. Occasional regional meetings. Courses on such topics as introduction to future studies, technology forecasting, etc. The Society's Book Service identifies and sells future-oriented books and other materials. The Society has also organized special-studies sections in Business, Education, and Technology, and sponsored section meetings on Business Tomorrow in New York, October 1976; Communications Tomorrow in New York, November 1977; and Education Tomorrow in Houston, October 1978; in Minnesota in October 1979, and in Amhurst, Mass., in November 1980. The Society's Third Gener-

al. Assembly, was held on July 20-25, 1980, in Toronto, Canada, and was attended by more than 5000 people.

Publications. *The Futurist*, A Journal of Forecasts, Trends and Ideas About the Future (bimonthly); *The World Future Society Bulletin* (bimonthly); *Future Survey: A Monthly Abstract of Books, Articles and Reports of Special Interests to the Futurist Community* (monthly); *Education Tomorrow*, *Business Tomorrow*, *Technology Tomorrow* (bimonthly newsletters); *The Study of the Future*, Edward S. Cornish (1977); *The Future: A Guide to Information Sources*, Edward S. Cornish, editor (1979); 1999: *The World of Tomorrow*, Edward S. Cornish, ed. (1978); *Instructor's Manual for The study of the Future*, Howard Didsbury (1979); *Student Handbook for the Study of the Future*, Howard Didsbury (1979); *Toward the Future*, film, Marc Chinoy and Roy Mason (1978); *Future Survey Annual*, M. Marien, ed. (1980); *Through the '80s*, F. Feather, ed. (1980); *Education: A Time for Decisions*, K. Redd and A. Harkin, eds. (1980); *Education and the Future*, L. Jennings and S. Cornish, eds. (1980); *Educational Futures*, Sourcebook I, F. Kierstead, et al., eds. (1979); *Communications Tomorrow*, Ed. Cornish (1982); *Information Society as Post Industrial Society*, Yoneji Masuda (1982).

X. WORLDWATCH INSTITUTE

1776 Massachusetts Avenue, NW, Washington, DC 20036, U.S.A.

Telephone: 202-462-1999

Founded: 1974

Officers. Orville L. Freeman, Chairman of the Board of Directors; Lester R. Brown, President and Senior Researchers, Kathleen Newland, Senior Researcher, Dr. Nigel Smith, Senior Researcher, Bruce Stokes, Senior Researcher.

Private, non-profit, research organization. Staff: 13. Sources of support: Foundation, United Nations Environment Program and United Nations Fund for Population Activities (for specific projects); Annual Budget: —

Objectives and interests. To identify emerging global issues and encourage a reflective approach to global problem-solving; to bring these issues to the attention of decisionmakers and the general public through the media and through Worldwatch publications.

Major programs and projects. "The Sisterhood of Man"—women's changing roles in a changing world; "The God That Limp"—impact of technology on society; "The Participatory Society"—community initiatives and ability to solve problems; "The Sustainable Society"—policies that will lead to a sustainable society from an energy and environmental standpoint; Ecological undermining of food production as a result of over-grazing, deforestation, desert encroachment, soil erosion and abandonment, flooding, and silting of irrigation systems; economic, demographic, and political discontinuities facing the world in the last quarter of this century; global strategies for energy equilibrium, with particular attention to possibilities for conservation and alternatives to fossil fuels and nuclear power.

Special facilities. Library of books, periodicals, and reports on the issues of food production and distribution, population growth, environmental issues, the status of women, energy options, and health (Not for public use).

Activities. Worldwatch publications program.

Publications. Worldwatch research results are communicated through Worldwatch Papers, which are available from the Institute, and through articles and books, including the following: *Worldwatch Paper Series* (on population, food, women, and energy); *Loosing Ground: Environmental Stress and World Food Prospects*, Erik Ekholm (1976); *Rays of Hope: The Transition to a Post Petroleum World*, David Hayes (1977); *The Picture of Health: Environmental Sources of Disease*, Erik Ekholm (1977); *The Twenty Ninth Day: Accomodating Human Needs and Numbers to the Earth's Resources*, Lester R. Brown (1978); *The Sisterhood of Man*, Kathleen Newland (1978); *Running on Empty*, Lester R. Brown, et al. (1979); *Planting for the Future: Forestry for Human Needs*, Lester R. Brown, et al. (1979); *The Future of the Automobile in an Oil Short World*, Lester R. Brown, et al. (1979); *The Future of Synthetic Materials: The Petroleum Connection*, Christopher Flavin (1980); *City Limits: Emerging Constraints on Urban Growth*, Kathleen Newland (1980); *The God That Limp*, Colin Norman (1981); *Helping Ourselves*, Bruce Stokes (1981); *Building a Sustainable Society*, Lester Brown (1981).